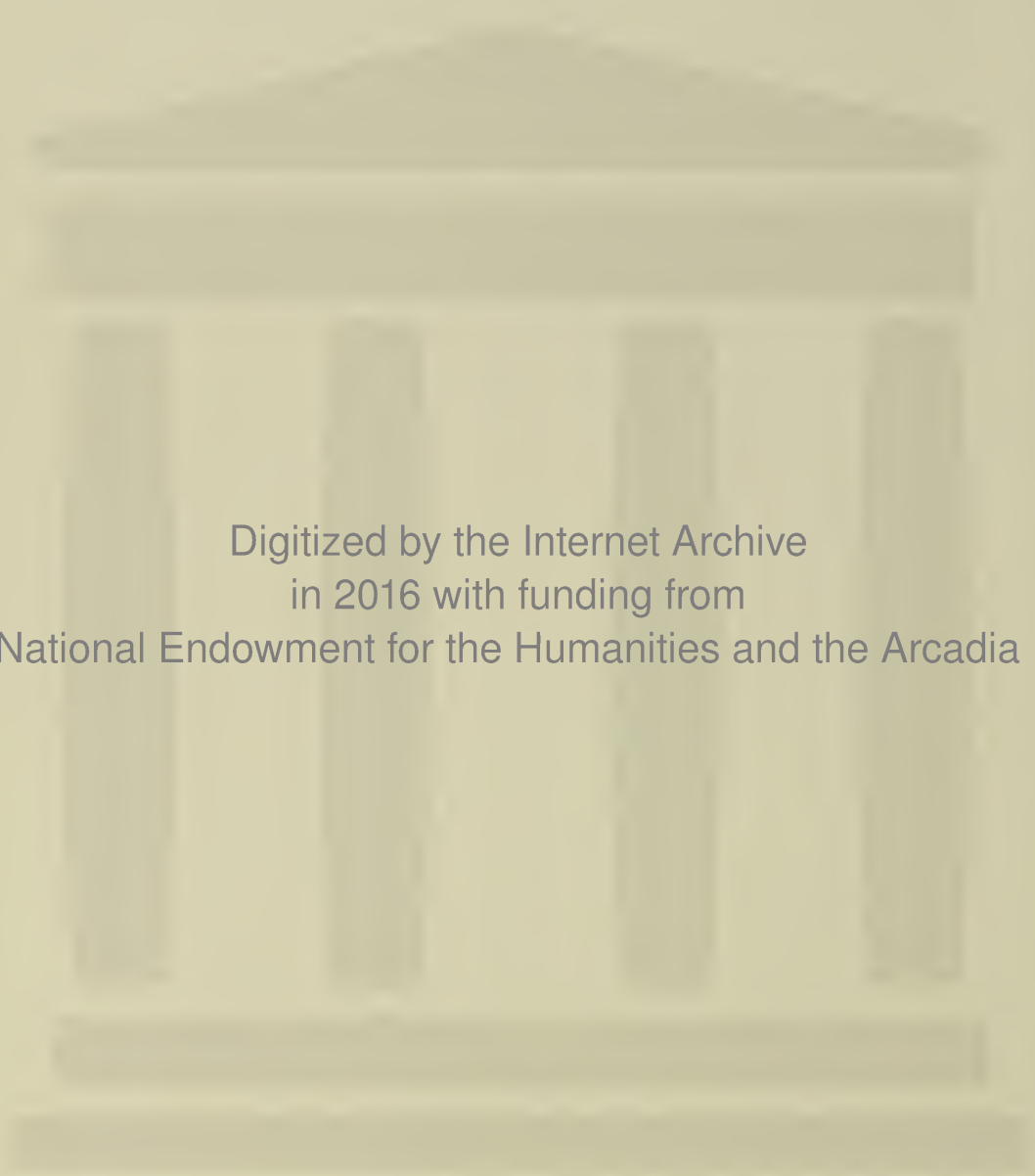


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JANUARY, 1965

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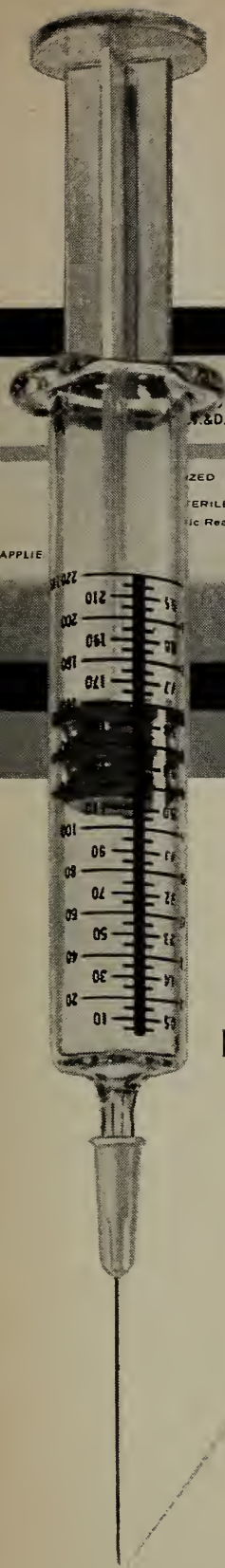
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TABLE OF CONTENTS

GUEST EDITORIAL

Effective Relationships in the Hospital from Medical Staff
Point of View—*Benjamin W. Rawles, Jr., M.D.*..... 1

SCIENTIFIC ARTICLES

A Pedodontist Talks to Physicians—
Charles J. Vincent, D.D.S...... 5

Skin Coverage in Injuries of the Hand—*Frank C. McCue,*
M.D., and Alonzo Myers, M.D...... 12

Ultrasound—*Arthur E. White, M.D.*..... 18

Obstruction of the Colon in the Newborn and in the Infant—
E. Ide Smith, M.D., and Donald Chambers, M.D...... 22

Recognition and Treatment of Aortic Fracture—
Richard N. deNiord, M.D...... 28

Idiopathic Recurrent Pericarditis—
Bernard H. Miller, M.D...... 32

Some Essential Element of Good Medical Care—
William D. Lewis, M.D...... 38

PUBLIC HEALTH

Medical Self-Help in Virginia..... 41

MENTAL HEALTH

Voluntary Admissions to State Mental Hospital and Changes
in Other Admission Procedures—
Hiram W. Davis, M.D...... 43

DIAGNOSTIC LABORATORY MEDICINE

Polycythemia—*Mario Guajardo, M.D.*..... 45

WOMAN'S AUXILIARY 49

EDITORIAL

Please Return the Questionnaire..... 51

King Edward and King-Anderson..... 52

NEWS 54

OBITUARIES 55

The MONTHLY is not responsible for the opinions and statements of its contributors

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INDEX TO ADVERTISERS—Page 34

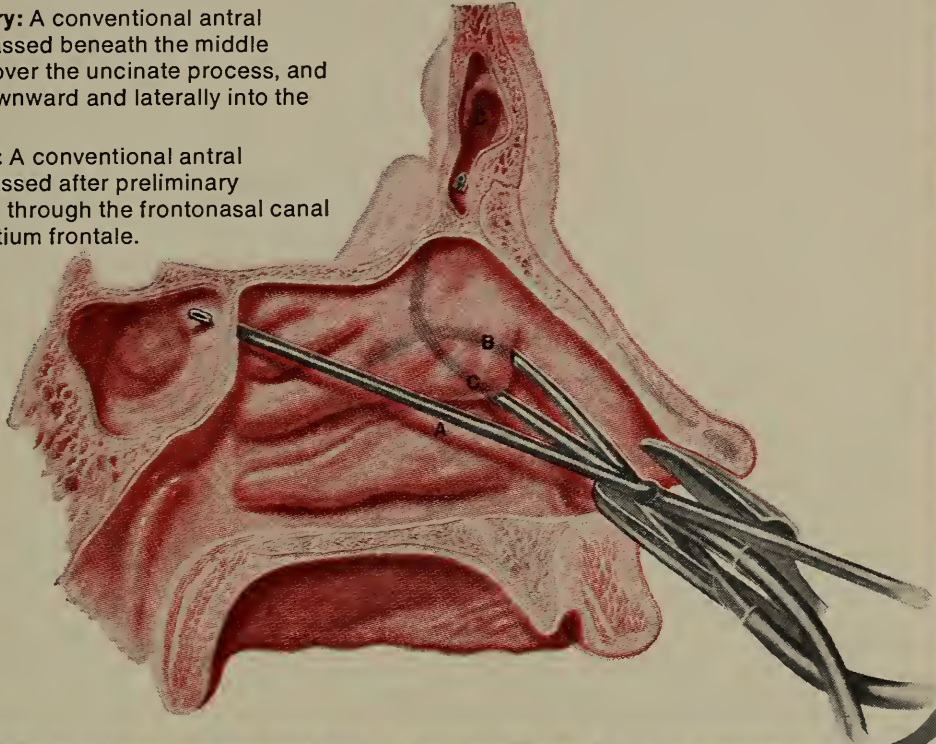
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Guest Editorial

Effective Relationships in the Hospital From Medical Staff Point of View

WITH THE ADVENT of the Hill-Burton program after World War II there occurred changes in the operation of many of our community hospital facilities. Prior to the war a majority of general hospital beds, exclusive of University Centers, were in proprietary hospitals controlled by physicians. Many of these hospitals were of small bed capacity and, therefore, not in a position to economically offer many of the modern hospital services. Naturally, all decisions concerning the operation were made by the owner-physicians with the help of either a Registered Nurse Superintendent or a Business Manager.

What brought about the increase in the number of community general hospitals? In order to provide patients with modern hospital facilities, two facts became apparent during this period. First, hospitals with bed capacities of 200-400 beds could more economically provide these modern services and second, by and large, physicians no longer had the means to provide these facilities; not only because of greatly increased cost, but also because high income taxes greatly reduced available funds for investment.

To answer their needs many communities, therefore, erected modern hospitals with the aid of Federal and State appropriations and through public subscription of funds. In other words, these hospitals were erected by the people for the care of the people of the community by all qualified physicians. These hospitals were no longer the private workshops of a restricted group of physicians, as was the case with the proprietary hospitals. Under the circumstances, it was only natural that the responsibility for the operation of these institutions should be invested in boards made up of community leaders. Larger and more complex hospitals required specially trained personnel to operate them, and so there was a great increase in the number of graduates from our schools of hospital administration to meet this need.

What is the physician's position under this new arrangement of hospital control? It is felt by some that laymen have been permitted to make decisions that physicians are better qualified to make and should make.

Some physicians say it is my patient being cared for, and it is my responsibility to make all decisions as to his hospital care. How can this dilemma be resolved? Today's physician has a full-time job practicing his medical specialty. He does not have the time or the training to assume the major responsibility of hospital management. However, he still has the responsibility to see that our community hospitals maintain the highest possible standards. Although physicians are not usually members of governing boards, and it is my belief that this is a good thing, they can still influence the operations of hospitals through the organized medical staffs or through contacts with governing board members. I feel that we are fortunate to have many community leaders who are willing to shoulder the burdens of the operations of community hospitals with their many complex problems.

It is a foregone conclusion that if the individual community hospital is to be operated successfully, there must be cooperation between the medical staff and the governing board and its appointed representative, the Administrator. This requires mutual respect and understanding. The Administrator is the key to a successful operation! He must be well-trained in his specialty, and above all be a modest man with an open mind. He must not be an empire builder nor can he play favorites. One Administrator I know calls every physician on the medical staff "Doctor" even though he is intimately acquainted with many of them. This same Administrator discourages the giving of gifts by members of the medical staff to employees of the hospital in order to prevent favoritism.

The efficient operation of a hospital, from the medical staff viewpoint first requires a harmonious staff organization that has only one goal—good patient care. The staff must realize that this may not come easily. It is with sacrifice of time and hard work to see that such standards are maintained. Differences of opinion will routinely arise in a staff, but if the Chief of Staff establishes good communication with the members of his staff, these can usually be resolved. An informed staff will pull together!

The relationship of a staff with the hospital administrator is most important. Communication again is the key. If the administrator has been fair to all alike, he will have the respect of the medical staff and they will work together as a team. The medical staff must feel free to bring their problems to the administrator and he in turn must keep them informed of financial operations, particularly as pertains to patient care costs, in order for the hospital to maintain a sound financial status.

A joint liaison committee, made up of appointed members of the governing board, and the medical staff provides for an interchange of ideas between these two bodies. Frequent meetings, to discuss administrative and medical problems, should be held. The medical staff must recognize that the board has the final responsibility in all hospital matters. However, if lines of communication have been kept open, the point of view of the medical staff will be respected by the board. The important thing here is that physicians must realize that the hospital was not built for them but for their patients and the granting of privileges to them by the governing board carries with it certain obligations to the institution.

The responsibility of the medical staff may be divided into three categories: First, the establishment of qualifications for staff privileges; second, setting up the necessary rules and regulations to govern the day-by-day professional care of patients; and third, providing a system to assure good patient care. A medical staff must look at these responsibilities objectively with only one thought in mind—how to provide the best possible medical service to the community, and, without any thought as to personal gain. The governing board has an obligation to the community, who created the hospital, to see that the medical staff meets its responsibilities, but they must also give the staff every opportunity to carry out its job without interference.

The setting up of a system to assure quality care requires the cooperation of the administrator and his governing board. An audit of every record, at an approximate cost of thirty cents a record, although not absolutely necessary, is very desirable in order to study the standards of medical practice in the institution. This type of study is very important in determining whether or not the best possible use has been made of available beds and perhaps this study may justify this particular expenditure. The audit, plus the review of tissues removed at surgery and the review of charts by appointed medical committees, enables the staff to properly evaluate the work of the members. There are some physicians who are opposed to this system of control of staff work. They feel that they should be left alone to care for their patients as they think best. Naturally, physicians must be interested in what is best for their patients, but in order to make the best use of beds and to keep per diem cost to a minimum, they must be willing to measure their patterns of practice against what their colleagues consider to be acceptable standards. They must be willing to face up to the following questions: Is the diagnostic workup of patients unnecessarily prolonged? Is there unnecessary delay in the requesting and the answering of consultations? Is the length of stay required in the treatment of certain medical conditions above the average? Is the time between admission and surgery too long? Is the discharge of the patient after surgery, in the case of certain routine procedures, longer than the average of other surgeons? In my opinion, the medical profession has an obligation to the public to set standards and to maintain them. The Joint Committee on Accreditation of Hospitals has done a good job in establishing high standards of hospital medical practices and deserve our support.

I cannot leave the subject of standards of medical practice without discussing the importance of staff education programs in maintaining these standards. Successful medical careers are usually ones in which there has been continuing education of the physicians. Certain facets of continuing medical education can be obtained by reading medical journals and by attending medical meetings or post-graduate conferences. However, physicians can keep pace with current medical trends when their daily practice is in an institution with a continuing educational program. Community general hospitals, in my opinion, should have such programs whether or not they have a house staff. Such programs require that physicians devote a certain amount of time attending and participating in

death and complication conferences, case presentations, panel discussions and lectures and in the teaching of the house staff. Privileges in community hospitals carry the obligations to participate in the hospital's continuing educational programs. If we do this, we will be better physicians and our communities will have high quality medical care.

There are several areas which require particular cooperation between staff and administration. Requests for additional beds; the establishment of new services such as intensive care units, open heart surgery units, pulmonary function and radioisotope laboratories; and the purchase of new equipment may be difficult to evaluate as to need and priority. With limited funds, it is most important that each request be objectively examined. The physician or physicians making the requests are usually so emotionally involved, because of their special interests in the projects, that it may be difficult for them to be objective in their appraisals. In most cases, the executive committee of the medical staff and the administrator will be able to arrive at a decision as to the need. In other instances it may be desirable to have a special committee study the request and make recommendations to the executive committee. If the governing board has doubts as to the wisdom of projects requiring the raising and/or expenditures of large sums of money, it should employ a consultant to make a study of the needs.

The governing board has the responsibility of seeing that adequate funds are available for the operation of the hospital. Day-by-day operation should be adequately provided for by patient charges, but there is a great need in any community hospital for endowment funds and funds for the purchase of special pieces of equipment, or to provide for special services that of necessity usually have to be subsidized. I believe that the medical staff members have a real responsibility to aid the trustees in securing such funds. They are in a position to influence friends and patients who have the means to make financial contributions. These physicians also should be encouraged to make voluntary contributions to hospital projects. Such contributions will assure a real spirit of cooperation between the medical staff and the governing board to the end that together they provide the community with the finest available hospital and medical services.

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A Pedodontist Talks to Physicians

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Pedodontics is a dental specialty analogous to pediatrics in medicine. The physician and the pedodontist working in cooperation with each other, each with a knowledge of the other's abilities and limitations, can provide the best care for the infant and child.

THE PURPOSE OF THIS PAPER is to emphasize the relationship between dentistry and medicine and more specifically between the pedodontist and the physician. There are many areas of interdisciplinary interest which either are overlooked or not understood. Too often the physician views the dentist as a technician concerned solely with the restoration of teeth. In some instances this may be true but the majority of dentists are oriented scientifically as well as technically. Most physicians are cooperative and helpful although not always adequately informed dentally.

The pedodontist's role in dentistry is analogous to that of a pediatrician in medicine. He is concerned with the total oral health of the child. He has prepared himself for this field by spending two additional years in graduate or postgraduate study comparable to an internship and residency program in pediatrics. The pedodontist's interests and responsibilities go far beyond the restoration of primary and permanent teeth. His basic

objective is to prevent dental disease through patient and parent education. He is vitally concerned with general physical development and growth from the prenatal period on as well as the development of teeth. He knows that many congenital abnormalities exhibit dental aberrations. He is concerned with the oral manifestations of systemic diseases from infancy on through the fully erupted permanent dentition. He also is cognizant of the deleterious systemic conditions which may either be initiated or aggravated by neglected oral health. He is alert for indications of incipient malocclusion and observes the development of occlusion with care. He is aware of the need for dental care for children with physical and mental handicaps. This, then, is the science of pedodontics as practiced by the pedodontist.

Contributions of Good Oral Health to the Growing Child

The medical practitioner usually examines the child before the pedodontist does and has the opportunity to suggest early dental care to parents. It is imperative that he have sufficient knowledge concerning dental matters to be able to recognize deviations from the normal and to recommend a dental consultation. He should be well informed as to the contributions good oral health makes to the general physical health of the growing child and to the child in later years.¹ He should know and understand why the preservation of the primary dentition is so important and represents the first step toward good adult dental health. He should recommend that all children have a dental examination by age three. It is hoped the age old question, "Why fill baby teeth?", will be answered by the following reasons and the physician will impart this information to parents.

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Facial Development and Expansion

It is of particular importance that the integrity of the primary dentition be maintained since it makes a significant contribution to facial development and expansion during early childhood. The presence of the intact dentition is important to the development of musculature. It also acts as a stimulus to the deposition and growth of alveolar bone. Early loss of primary teeth can result in weakened musculature and deficient osseous morphology. The permanent successors assume these roles as they replace the primary dentition.

Mastication

A full complement of either sound or restored primary teeth is prerequisite to good functional occlusion resulting in adequate mastication which contributes to better digestion. Children with multiple carious or missing teeth frequently refuse foods which require chewing or are unable to masticate adequately chewier foods before swallowing. Just as the primary dentition is important to the growing child, so is the permanent dentition important to the adolescent and young adult.²

Speech

Good oral health and well cared for primary teeth make a significant contribution to developing speech. Kessler³ states that speech defects can be caused by malocclusion or loss of teeth among other things. A good dental apparatus is significant at a time when children are developing speech habits and characteristics related to environmental influences. The teeth play a role in the formation of certain sounds and if they are grossly carious or missing may contribute to errors in articulation. A healthy permanent dentition is important in reference to maintaining desirable speech habits developed during the earlier years.

Occlusion

Primary teeth serve as natural space maintainers for the developing permanent den-

tition. The early untreated loss of a primary tooth can result in major problems in occlusion necessitating orthodontic therapy. Faulty occlusion as a result of premature loss of primary teeth contributes to problems in mastication and speech and in later life can be a contributing factor to temporomandibular joint problems.

Oral Foci of Infection

Miller⁴ and others^{5,6} point out the possibilities of systemic infections as a result of oral foci. Poor gingival condition and acute or chronic dental abscesses are particularly dangerous and should be treated with dispatch. Bacteremia, bacterial endocarditis, rheumatic fever and poliomyelitis are a few of the systemic problems which may arise from oral foci.

Some Oral and Dental Areas of Bilateral Interest

Since it is not possible to include all areas of mutual interest to the pedodontist and the physician, a few of the more commonly encountered conditions will be discussed.

Labial Frenum

Far too many children have been subjected to unnecessary surgical procedures to remove a labial frenum diagnosed by a dentist or physician as abnormal. The occurrence of a truly abnormal frenum is extremely rare.

A noticeable labial frenum is very common in infancy but the pressure from the eruption of the primary teeth usually causes the crested part of the frenum to disappear. As development and growth continue there is an increase in the size of the maxillary sinuses and alveolar process which results in a marked increase in vertical height. During this period there is a tendency for the frenum to remain stationary or appear to move upward. Therefore what may appear to be an abnormal frenum at age four may be normal at eight or ten.

In some cases the insertion or attachment

of the frenum may extend over the alveolar crest and into the palatal papilla or may be located between the lateral halves of the maxilla preventing normal growth and closure. In such cases the frenum may prevent proper alignment and approximation of the central incisors and would be termed abnormal.

However, before determining that a frenum may be creating a permanent diastome between the central incisors, one must consider the possibility that the spacing is normal for that child or may be an indication of a familial characteristic. Spacing between central incisors may also be indicative of congenitally missing or peg shape lateral incisors or the presence of midline supernumerary teeth.

It is extremely difficult to determine that a labial frenum is abnormal until after the permanent cuspids have erupted.

Gingivae

Examination of the oral tissues, teeth and pharynx is commonly practiced by the physician. Alterations in color, tone and density of tissues are indicative of dental disease or possible systemic disorder. These conditions range from simple gingivitis attributable to poor oral hygiene or local irritation from chemical or mechanical trauma to an acute herpetic gingivostomatitis. The latter condition is a common infection in infants and children and represents the child's first experience with the herpes simplex virus. Ross⁷ states it is characterized by fever lasting five to six days which may range from one hundred to one hundred five degrees accompanied by increasing redness, tenderness, hypertrophy and bleeding of gingival tissues. There may be shallow ulcerations on the inner lip, gingivae, oral mucous membranes, tongue, pharynx and occasionally the esophagus. The child may be unable to eat or drink for several days. The submandibular nodes swell and there is apt to be insomnia and irritability. The disease usually runs its course in about a week.

Although there is no preventative or cure for this condition, the pedodontist may minimize the possibility of secondary infection by applying a two percent solution of aqueous gentian violet. Some success has been reported with prescribing one hundred milligrams of vitamin C daily.

Aphthous stomatitis, often referred to as "canker sores", is in all probability the most common involvement of the oral mucous membrane. Whereas an experience with acute herpetic gingivostomatitis produces permanent immunity, frequent experiences with aphthae are not uncommon. The lesion is characterized by a small oval reddened area which soon develops a grayish yellow membrane. This membrane sloughs in a few days leaving a shallow ulcer whose base is covered with a grayish granulation tissue. Healing usually takes place in about two days.

These lesions are often very painful and are subject to secondary infection. Mild alkaline mouth rinses or painting the area with a two percent solution of aqueous gentian violet help in controlling secondary infection. If pain is severe, temporary relief can be obtained by applying a topical anesthetic ointment. The use of vitamins, smallpox vaccine or antibiotics is of little or no value.

The cause of aphthae is unknown although it has been suggested by some that these lesions may be attributed to the herpes simplex virus. However, several authorities⁸ agree that the lesions seen in recurrent aphthae are not of herpetic etiology.

Children with gingival disturbances should be referred to the pedodontist for treatment. Although antibiotics may be of value in some cases in controlling secondary infection, dental therapeutics is necessary in most types of gingivitis to control and eliminate the causative agent. Physicians should not attempt to treat these problems with antibiotic therapy only.

It is also possible that gingival disorders which do not respond to local dental therapy by the pedodontist are triggered by some

undiscovered systemic dysfunction such as avitaminosis, leukemia, anemia or other blood dyscrasia. Uncontrolled untreated gingival disturbances can lead to future problems including loss of tissue (gingival recession) and loss of supporting bone. These disturbances create new foci of infection.

Oral Habits

There are numerous habits which can, if practiced for extended periods of time, create serious dental abnormalities. These include thumb and finger sucking, nail biting, mouth breathing, pressure and postural habits, lip and cheek biting, tongue thrusting and tongue sucking.

There appears to be a wide divergence of opinion among pedodontists, physicians, orthodontists and psychiatrists in reference to habits and their deleterious effects both dental and mental. The dentist is concerned about injury to the dental apparatus while the psychiatrist is concerned about mental trauma. Langford⁹ indicates that frequently the pediatrician to whom the parents come to for advice is as confused about the significance of the practice as are the parents themselves. Psychiatrists too are not always in agreement with dentists about the harmful effects of habits.

In all probability thumbsucking is the most notorious of pernicious oral habits and the one about which most has been written. All in all, most dentists agree with Kugelmass¹⁰ who states that in infancy thumbsucking is normal; in the preschool child thumbsucking means maladjustment; and in childhood thumbsucking is abnormal.

Usually the infant engages in thumbsucking as a normal outlet of desire for oral gratification. It is an expression of hunger, teething, fatigue, discomfort or pain. If the infant does not receive sufficient oral stimulation from nursing, he may resort to extra-curricular sucking of finger or thumb. If it appears excessive thumbsucking is developing, a clean pacifier, the lesser of the two evils, may be employed. Every possible effort

should be made to keep his hands busy during waking hours.

The preschooler who sucks his thumb beyond age two usually keeps the habit until around six. It is usually associated with periods of consolation as a result of feeling unloved, unwanted, embarrassed, etc., and is no longer performed to satisfy sucking needs but to provide some source of comfort.¹⁰

An American Academy of Pedodontics committee report¹¹ suggests that effects on the dentition may be severe if the thumb habit is performed between the ages of four and six at high intensity and prolonged duration. The report goes on to say that the primary effect of thumbsucking is to push the upper incisors labially. If concomitant pressure is applied by the thumb to the lower teeth, these are lingually inclined. This results in an overjet and an anterior open bite which frequently leads to a tongue thrust habit.

Almost all dentists and physicians are agreed that a continuation of the habit beyond age six indicates that the action is now symptomatic and must be considered abnormal. It is an infantile procedure definitely not in keeping with the age level of six or older and is usually accompanied by personality disturbances. Severe damage may result if the habit persists during the eruption of the permanent incisors.

Other habits previously mentioned can also result in harmful effects to the dentition and should be corrected if they persist. These include mouth breathing which may be initiated or encouraged by enlarged or inflamed tonsils or adenoid tissue. Prolonged mouth breathing may result in extrusion of permanent molar teeth and the development of an open bite. This lends itself to a tongue thrust habit. Mouth breathing may also result in inflamed, hyperplastic gingivae resulting from the drying of tissues. Tonsils and adenoids found to be contributing to a mouth breathing habit should be removed if possible.

Bruxism is another habit which can create dental problems. Habitual prolonged grind-

ing can reduce occlusal surfaces of teeth to almost flat tables creating a closed bite with possible nerve impingement in the temporomandibular joint. It can also contribute to a thickened periodontal membrane and shortened roots from excessive stress.

A logical approach to treating oral habits should include the following considerations.

1. Thumbsucking and other oral habits should be expected up to age two and nothing should be done to stop them except, perhaps, an effort to keep hands busy during waking hours or direct attention to a pacifier.

2. The child who continues the thumb habit beyond age two needs sympathetic understanding more than scolding, punishment, ridicule, tied sleeves or bitter substances. Efforts should be made to direct attention from the thumb to more productive play. Thumbsucking may easily and quickly be discouraged by a simple dental reminder appliance in cases where there seems to be little emotional disturbance accompanying the habit.

3. When the habit persists beyond age six the physician and dentist must look for some underlying emotional problem or social maladjustment and treat it—the cause—rather than treating the symptom, thumb-sucking. In some cases a dental reminder in conjunction with psychotherapy would be beneficial.

4. Parental education and cooperation are necessary to successful treatment as well as cooperative understanding between the pedodontist and the physician.

Fluorides

A great flood of literature has appeared in print in recent years either extolling fluoride or condemning it. Condemnation almost always is based on the principle of mass medication and its unconstitutionality rather than its lack of effectiveness. It has been established beyond doubt that fluoride either applied topically or in a public water supply does reduce the incidence of the

nation's most prevalent disease—dental caries.^{12,13,14}

Fluoride can be applied topically to tooth surfaces or can be impregnated in unerupted developing teeth through its consumption in the community water supply. It has been shown to be effective when applied to the teeth through the medium of a dentifrice.

Physicians should be cautioned against prescribing a combination of vitamins and fluoride or fluoride tablets since such tablets or drops have not yet been shown to be clinically effective. Furthermore, fluoride should not be recommended indiscriminately unless the fluoride content of the local water supply has been determined. Excess of fluoride during tooth development stages can result in fluorosis or mottled enamel.

Rampant Caries

The physician who examines a child and finds a mouth rampant with multiple carious teeth should refer that child to a pedodontist for immediate attention. It has already been stated why the restoration of primary and permanent teeth is important dentally. It is important medically from the standpoint of minimizing or eliminating the possibility of teeth as foci of infection and insuring acceptable mastication resulting in better digestion.

It would be desirable for the physician to be cognizant of the dental problems which might arise in the event it became necessary to extract one or more of the cariously involved teeth. Such conditions as traumatic occlusion, impacted bicuspids and ectopically erupting teeth could be avoided by the use of a space maintainer which would prevent the movement of remaining teeth into the spaces created by the extractions. Space maintainers are constructed of metal or plastic and may be removable or fixed.

The pedodontist will recommend and construct space maintainers when indicated. It would be helpful if the physician could knowledgeably endorse the pedodontist's recommendation in the event the parent asked the physician for his opinion.

Aberrations in Tooth Development

When oral examination reveals unusual tooth formation either in size, shape, texture or number, the physician should refer the child for a dental consultation and treatment.

Microdontia, macrodontia and peg shape teeth are indicative of variations in tooth size. Extra cusp development, mulberry molars, peg shape teeth, geminated and fused teeth are examples of alterations in shape. Local or general enamel hypoplasia, hypocalcification, chronological and neonatal rings, amelogenesis and dentinogenesis imperfecta present visible differences in hard tissue texture. Supernumerary and congenitally missing teeth indicate an abnormal number of tooth buds.

Numerous etiological factors are present in abnormal tooth development. Some aberrations are hereditary, some congenital and others result from a systemic disturbance. Maternal rubella, endocrine dysfunction, high prolonged temperature, early infancy feeding problems, trauma, cleidocranial dysostosis, ectodermal dysplasia, Pierre-Robin syndrome, Treacher-Collins syndrome, cleft palate, Mongolism, achondroplasia, osteochondrodystrophy, incontinentia pigmenti are some of the entities with dental manifestations.

In most of these instances the pedodontist can help the child toward attaining a more nearly normal dental apparatus which becomes increasingly valuable as the child grows older.

Stains and Discolorations

The physician may be the first to notice staining or discoloration of the teeth and should advise the parent to seek dental attention.

Extrinsic staining may result from foods or chemicals or it may be physiological in nature resulting from Nasmyth's membrane. In most instances these stains are not harmful and are readily removed by dental prophylaxis.

Intrinsic staining may occur in erythroblastosis fetalis, obstructive jaundice and hematorporphyrinuria. It may result from the excessive use of ferrous drugs, fluorides or tetracycline. These stains are usually permanent.

A report in a recent medical journal¹⁵ warns that tetracycline, chlortetracycline and oxytetracycline are capable of seriously discoloring children's teeth. These agents are deposited and persist in the osteogenetic regions of normal and pathological bone immediately following administration. The areas of deposition are noted by a characteristic bright yellow fluorescence under ultra violet light. Teeth are capable of retaining the fluorophor if given during the formative periods. Since there is no active turnover in dental tissue the stain persists.

Bevelander,¹⁶ working with experimental animals, not only demonstrated the deposition of a fluorophor of tetracycline but also showed a partial inhibition of mineralization in the increments of enamel and dentin formed during the period the drug was administered. This work could possibly describe another form of enamel hypoplasia.

Treatment for Handicapped Children

The physician may be confronted with patients exhibiting physical handicaps including cleft palate, cleidocranial dysostosis, cerebral palsy, muscular spasticity, rheumatic or congenital heart disease, hemophilia and other disabling conditions. He may have mentally retarded children in his practice. All these children are subject to dental disease. Some of them have increased dental problems because their handicaps limit personal hygiene efforts or make routine dental care a major undertaking.

In such instances the bilateral interest and approach of the physician and the pedodontist is desirable. They should cooperate in planning and executing treatment. Physicians examining these children should recognize the need for prompt dental attention and make this recommendation to the parents. He should advise the pedodontist if the

child has a special problem and medication requirements. The pedodontist treating these children should always consult the physician to determine whether or not dental treatment is contraindicated and what limitations, if any, should be placed on medications, duration of appointments and use of local anesthetics.

Some of these children cannot be treated satisfactorily in the dental office and will require hospitalization with treatment utilizing a general anesthetic. The properly trained pedodontist will be prepared and qualified to perform this type of dental care. The physician can cooperate with the pedodontist by completing the preanesthetic history and physical examination and assuming responsibility for the child's medical needs during hospitalization.

The physician should be aware of the necessity and value of treating some children in the hospital utilizing general anesthesia and have an understanding of how this type of dental care can contribute greatly to the handicapped child's oral health.

Summary

Pedodontics is a dental specialty analogous to pediatrics in medicine. These two disciplines devoted to caring for the child patient have much in common. It would be helpful if the physician, since he usually sees a child before the pedodontist does, were more knowledgeable in reference to selected dental problems which might arise in children in his practice. He should be prepared to recognize developing abnormalities and recommend a dental consultation to parents.

Although the physician is not expected to be totally oriented dentally, he should be conversant with such dental matters as the necessity of restoring primary teeth, oral foci of infection, abnormal labial frenuli, gingival disturbances, oral habits, fluorides, rampant caries, aberrations in tooth devel-

opment, tooth stains and discolorations and dental care for the handicapped.

It would appear that pedodontists and physicians should make a greater effort to exercise more bilateral interest and cooperation in child health problems relating to both professions.

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Skin Coverage in Injuries of the Hand

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Wounds of the hands must be closed in order to minimize loss of function in this highly developed organ. Various methods of closure are discussed.

THE HAND is a delicate, yet strong, organ with many finely integrated moving parts. However, the ability of it to function as a "third eye" is due to the fact that the palmar skin possesses the sense of stereognosis which is found nowhere else in the human body. This gives the sensory perception which is so necessary to the tactile use of the hand. Because of this and the ability of this specialized tissue to withstand the effects or prolonged wear and tear, every effort should be made to conserve this tissue whenever possible. However, in cases when this tissue is lost or severely damaged, other sources of skin coverage must be utilized for primary closure of the wound to prevent an entry for infection and the granulating surface with its subsequent induration, stiffness and tissue scarring.

Skin on the dorsum of the hand does not possess this stereognostic ability, but is loosely attached and elastic to allow free motion of the hand and fingers in flexion and intricate motions.

Wounds of the hand must be closed with few exceptions. These exceptions being human bites and actively infected wounds. There are many things which will influence the choice and type of skin coverage as well

as what primary repair of deeper structures may be done. These include the period of time following injury, the place of injury and contamination which may have been present, the anatomical location of the wound, and its severity. The amount of crushing with its associated damage to the surrounding tissue and the direction in which the avulsed flaps are based are very important in judging the viability of the skin flaps due to damage to their vascular supply. The age of the patient, his occupation, sex, and whether or not it was the dominant hand are also taken into consideration.

Because of the importance of the hand in everyday living, certain principles must be followed in covering the surface defects, in order to obtain optimal results. In planning surface coverage the suture and graft margins should follow physiological skin tension lines and creases to prevent increased scar formation and contractures. The lines should extend to the mid-lateral area of the fingers in which there is no constant motion in flexion and extension which will hypertrophy scar and increase the contracture. Rarely in cleanly cut lacerations crossing flexion creases longitudinally or in other suboptimal locations the Z-plasty may be used to break the scar line and redistribute the tension on the wound edges. (Fig. 1) However, as a rule the Z-plasty is not recommended for use in primary treatment of wounds resulting from trauma unless the wound resembles a surgical incision and the circumstances are otherwise ideal. It should rather be reserved for use in any subsequent revision of the scar. The cleft should be deepened adequately with the use of darts in web spaces. Margins should not overlies deeper structures such as nerves or tendons in a longitudinal direction or in areas where

Presented at the meeting of the Virginia Orthopedic Society, Charlottesville, April 5-6, 1964.

secondary repair is necessary, if possible. The plan should allow for adequate coverage of skin with the hand in different positions. For example, the extensor surface of the hand and fingers is 1½ inches longer when

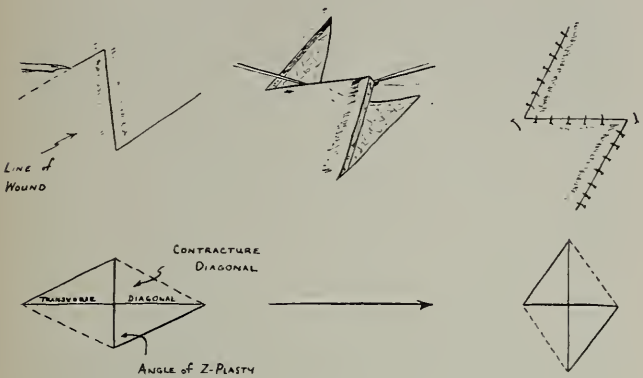


FIGURE 1

the fingers are in flexion than when in extension. The fact that the palmar skin is thick and fixed while the dorsal skin is elastic and fairly movable must also be taken into consideration.

Methods of Skin Closure

The types of skin closure which are to be used in treatment of an injury must be tailored to meet the needs of the individual case. (Fig. 2) There are many methods of

METHODS OF SKIN CLOSURE

- 1) Direct Suture
- 2) Free Graft
 - A—Split Thickness
 - B—Full Thickness
- 3) Local Flaps
 - A—Advancement
 - B—Rotation
 - C—Fillet
- 4) Pedicle Flaps
 - A—Cross Finger
 - B—Thenar
 - C—Cross Arm
 - D—Pectoral
 - E—Abdominal
 - 1) Direct
 - 2) Tubed

Figure 2

skin closure and each is the treatment of choice in its specific situation. Frequently, a combination of various methods is necessary.

Closure by Direct Approximation

Due to the specialized nature of the skin of the hand, every effort should be made to preserve all viable portions possible. Closure by direct approximation is always preferred, if possible, both for excellence of coverage and ease of care. Because of the adherence of the palmar skin to the underlying fascia, wounds in which actual tissue loss occurs are often difficult to close by direct approximation. This fact plus the inelastic nature of the palmar skin, does not allow any appreciable increase in ease of closure by undermining the margins of the wound. For this reason, always debride with care, taking only the skin which is completely lacking in viability, but at the same time keeping in mind that there is no value in retaining skin which will clearly not survive, and which, if saved, may actually increase scarring and the possibility of infection. The dorsal skin which is much more elastic and loosely attached will allow larger defects to be closed by undermining the edges and direct suture without the necessity of transportation of skin from elsewhere.

Skin Coverage by Free Grafts

The method of choice in a great number of acute injuries is the use of split thickness grafts. In general, it is noted that the thickest graft possible which will allow a take is best used. It should be remembered that free grafts, having no blood supply of their own, will not grow on denuded cortical bone, tendon in the absence of paratenon or sheath or articular cartilage. It should also be remembered that the thinner the graft is, the better it takes, but the greater the contracture and the more prone the graft is to injury and abrasion. Secondary reconstructive surgery and repair is not possible beneath free grafts. Subsequent shortening and contracture of the graft may lead to flexion or extension deformities and if the graft becomes adherent to the tendon the amplitude of motion may be appreciably decreased. In most cases the amount of skin

needed for closure in wounds of the hand is not great and can be easily obtained from the forearm of the injured hand, thus alleviating the need for prepping and draping of other locations, increasing speed and ease of surgery. Free grafts on optimal beds of soft tissue generally give excellent results, especially in children which often approach the normal after a period of time.

Split thickness grafts can be used to great benefit as a temporary skin dressing in primary care of wounds prior to the optimal time for secondary coverage and reconstruction. Bacteria counts taken on granulating wounds and then in serial smears after the wound recovered with split graft, showed a progressive decrease in colonies. This also prevents the loss of edema fluid and minimizes the subsequent induration and scarring.

Full thickness grafts provide more pliable, tougher coverage with less contracture, but because an optimal nutrient bed is necessary, they have little place in the management of acute hand injuries.

Skin Coverage by Local Flaps

Local flaps are rarely possible on the palm of the hand, although occasionally defects of the volar surface in the area of the first cleft may be covered by rotation of the flap from the dorsum of the hand. However, the defect must be small, due to the position and length of the flap necessary. This is due to the firm adherence and thickness of the palmar skin to the underlying aponeurosis.

The use of local flaps is especially valuable on the dorsum of the hand when the underlying structures cannot be covered with a split thickness graft due to the lack of a bed of adequate nutrition or secondary tendon reconstruction or deeper tissue repair is necessary. Due to the mobility and elasticity of the dorsal skin, rotation or transposition flaps (Fig. 3) may be used with the defect left by moving the tissue, being closed by direct suture or free split thickness graft. A rotation flap is created by rotating the tissue into the primary defect. If the

skin is moved laterally into the defect, it is called a transposition flap. Most local flaps combine both principles in varying degrees.

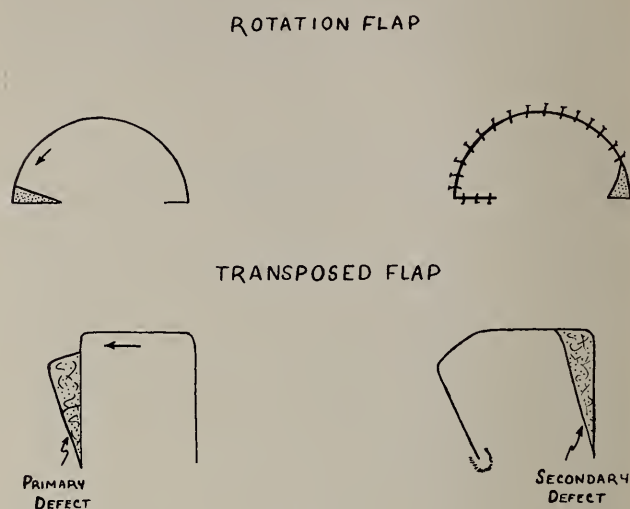


FIGURE 2

The primary defect must be triangulated as the initial step with either type of flap. If, for any reason, the defect cannot be triangulated, this type of closure is rarely suitable.

When digits have been severely injured, especially with multiple structures damaged, but the skin is intact, this skin may be used to resurface adjacent defects by filleting the bone and using the pedicle with its blood and nerve supply intact. (Fig. 4) This gives excellent results due to the presence of normal sensation, plus the fact that further reconstructive procedures may be carried on beneath the flap.

Skin Coverage by Pedicle Flaps

Pedicle flaps give a pliable coverage beneath which reconstructive surgery may be carried out. Tendons may be grafted or transferred beneath these grafts and subsequently function satisfactorily. These flaps are also more resistant to trauma than are free grafts. They bring a blood supply to the area, improving the circulation, also allowing release of constricting skin and deep tissue scarring. The use of this living tissue transfer allows the coverage to survive independently and is able to cover bones, tendons and joints.

The pedicles may be directly applied with the remaining raw area covered by a split thickness graft, or by undermining and advancing the surrounding skin, if feasible. The raw area at the base is always covered

ering small defects, particularly in areas where decreased sensation and painful tender stumps would cause great difficulty in use of the hand, especially pinch. Also the skin more closely resembles that in the adjacent



to prevent drainage and induration associated with subsequent undesirable complications. The flaps may also be tubed in which the raw area is not present.

The direct flap allows denuded areas to be covered quickly, thereby reducing the time of hospitalization and the number of operative procedures necessary. The tube pedicle is more aseptic due to the absence of a raw area and, therefore, the possibility of secondary infection is lessened. The tube pedicles also allow more freedom and may be tailored more easily to fit a variety of shaped defects. However, they do increase the period of disability because of the increased number of operative procedures which are required. When tube pedicles are unfurled and placed on the wounds, they are occasionally somewhat thickened and indurated due to repeated operative interventions and the positioning in a tube for the required period of time.

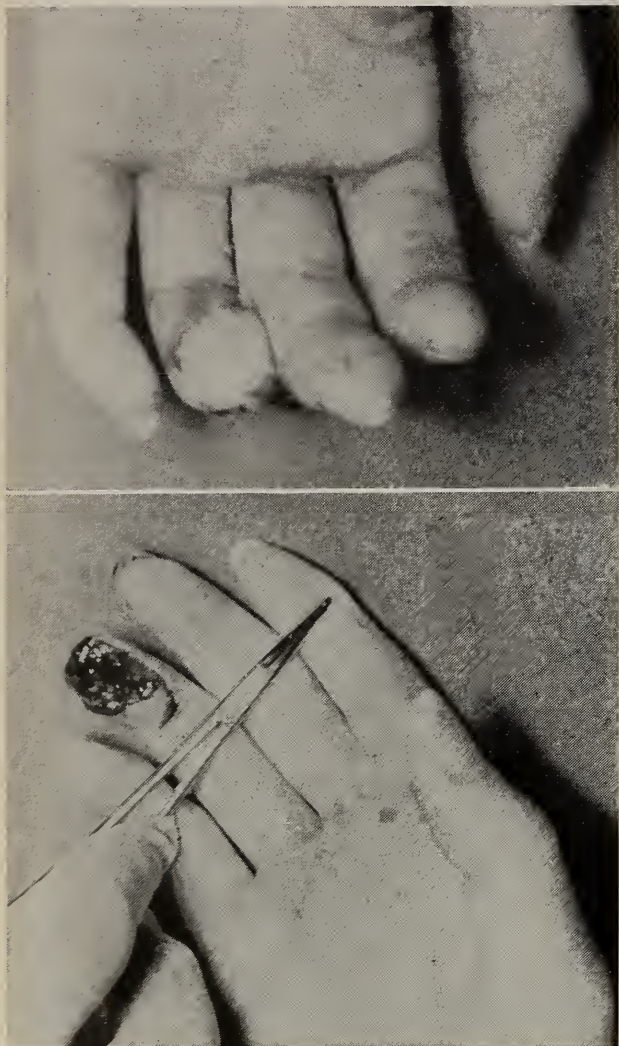
Cross-finger flaps are valuable in covering defects on the palmar surface of the thumb and fingers, especially the index and middle. (Fig. 5) These are especially useful for cov-



Fig. 4. (A) Patient, W. C., suffered a severe crushing injury to his right hand when it was caught in a punch press. (B) Following initial debridement the extensively damaged index finger was filleted and the skin used to cover the defect in the palm. (C) One year post-op following multiple reconstructive procedures.

areas, giving good cosmetic results. There is a minimum of fatty subcutaneous tissue thus allowing improved sensation. These flaps must be accurately planned and outlined so that later contractures will not occur and because of the relatively small size of the flap, little margin of error is allowable. However, by releasing Clelands liga-

ments more mobility can be obtained which prevents undue tension or kinking at the base of the pedicle. However, this does not give completely normal skin and in many individuals, especially in the ring and little



fingers, shortening of the phalanx and direct closure of the wound is the preferred treatment.

Cross-finger flaps give results as good or better than thenar flaps with less stiffness and absence of scar in a prominent position at the base of the palm. Thenar flaps may be used in children with less discrimination due to the minimal stiffness which occurs in these cases following the immobilization of the fingers in the flexed position for the required time. In individuals with thick skin and stable joints and those with a tendency toward arthritis, care must be taken in evalu-

ation of these cases, due to the ease with which stiffness occurs, not only in the injured finger, but also in the donor finger, and to a lesser degree in the remainder of the digits.

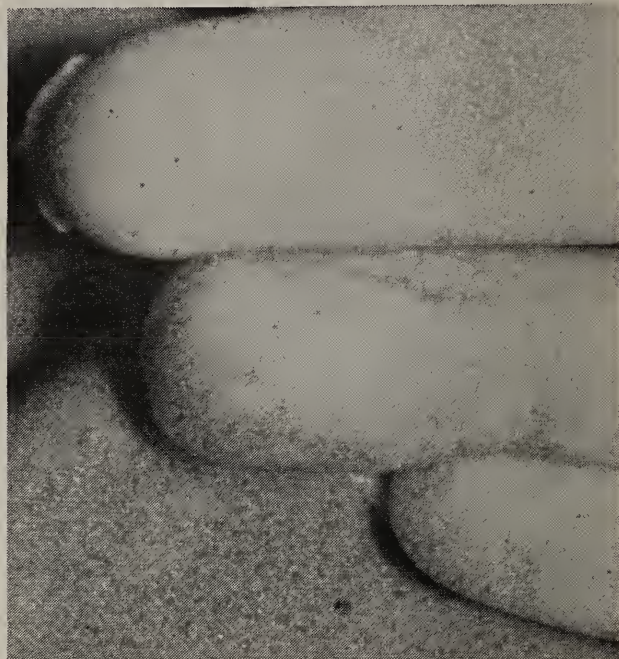


Fig. 5. (A) Patient, F. W., a 25-year-old female, injured her right ring finger in a food chopper with avulsion of the volar pad. The bone was exposed, almost the entirety of the distal phalanx. (B) Three weeks following application of a cross-finger flap from the dorsum of the adjoining middle finger just prior to detachment. (C) Six months following injury, satisfactory healing had occurred and sensation was improving progressively.

Cross-arm flaps offer good skin texture in abundant amounts but are very inconvenient to the patient, due to the fact that both arms are tied up for a lengthy period.

Pectoral flaps have a thinner fatty layer than abdominal flaps and are used especially for defects of the thumb in areas which are inaccessible to local coverage or cross-finger flaps. These can generally be closed by pulling the edges of the wound to the defect after undermining the surrounding area which leaves no raw surfaces exposed. The abdomen gives adequate tissue coverage of large defects in the hand and forearm, (Fig. 6) but return of sensation with abdominal flaps is poor, and there is a large amount of fatty subcutaneous tissue present. This type of coverage is especially poor for fingertip injuries, in which the final results may be a

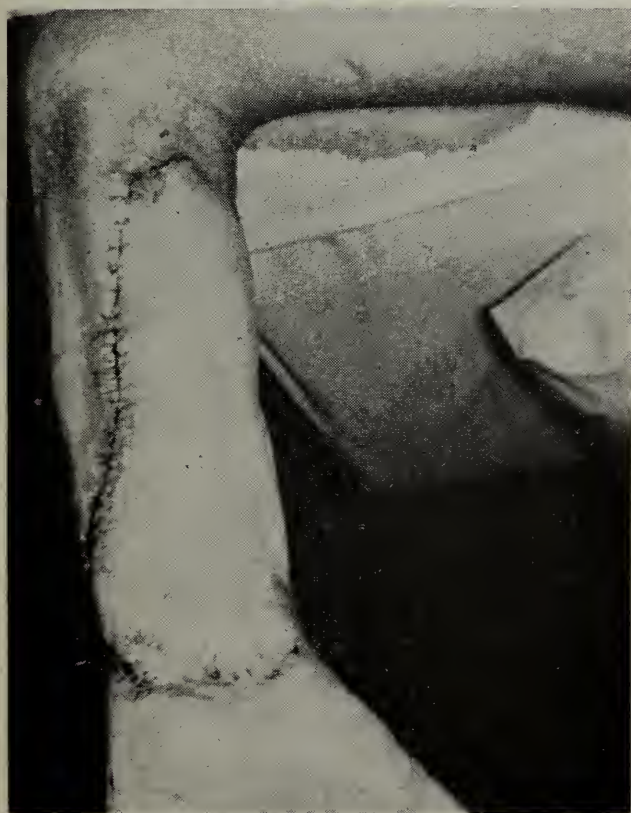
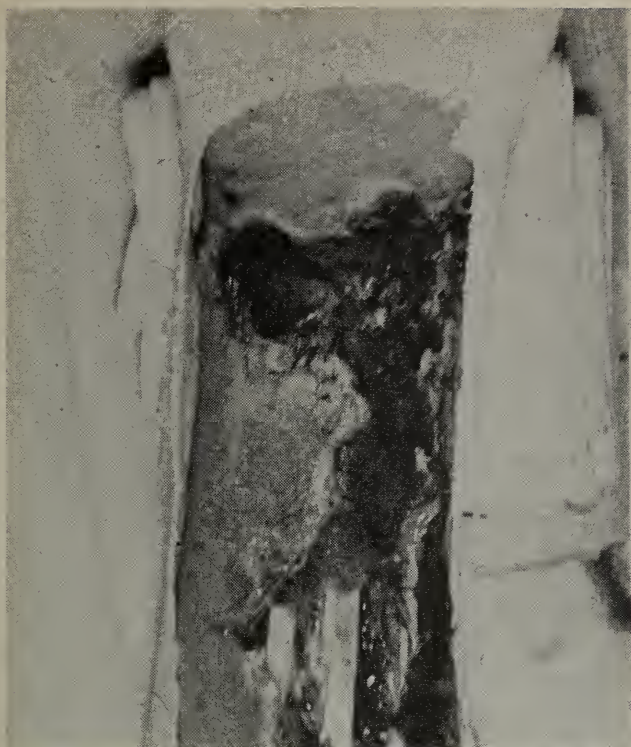


Fig. 6. (A) Patient, M. N., 9 days previously had been run over by a motor boat while water skiing with multiple transverse lacerations and avulsions from the shoulder to the wrist. Multiple divisions of tendons and nerves with severe traumatizing injury to the skin. Primary closure with subsequent necrosis of the skin over the volar aspect of the forearm. Debridement of the devitalized skin was done and a split thickness graft was used as a skin dressing. (B) Five days later a direct abdominal pedicle flap was applied to the defect. (C) One week following detachment of the abdominal flap.

large globular mass of mobile flexible tissue on the end of the digit. The pectoral and abdominal flaps have a tendency to vary in thickness incurred with the dietary habits of the patient regardless of multiple defatting procedures. This gives poor tissue coverage of the palmar surfaces of the hand, especially the finger-tips, causing marshmallow-like pads on the tips of the fingers which are of great distress to the patient.

Conclusion

The wounds of the hand must be closed in order to protect the underlying structures from exposure and infection, thereby minimizing the swelling and induration and preventing the stiffness which is so detrimental to the function of this organ so essential in everyday living.

The various methods of skin coverage in injuries to the hand are shown and the specific indications for each are briefly discussed.

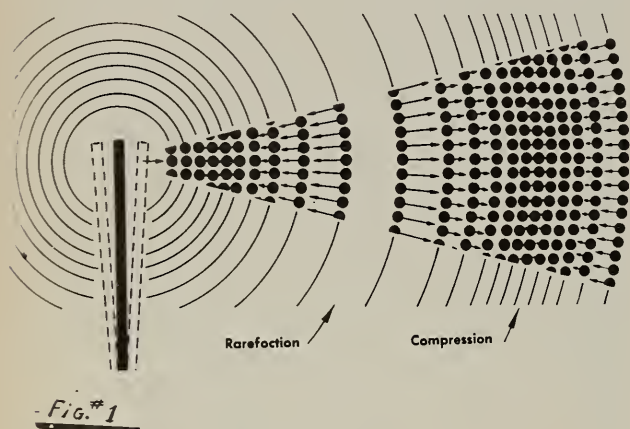
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Ultrasound

Uses and Abuses

Ultrasound is a successful tool in the hands of those experienced in physical medicine.

SOUND IS A FORM of kinetic energy produced by particles moving in longitudinal wave form of compression and rarefaction (Figure #1). When the particles



are pushed together a compression wave is formed that then springs back to the original position and beyond, carried by momentum. This creates the forces of rarefaction and, if excessive, results in cavitation.

To assume the vibrating air particles travel from their source to the ear the way a batted ball travels to the outfielder's mitt is false. If this were true then every time a politician opened his mouth to speak there would be a 700 mile-an-hour gale, which is the speed of sound through air. The denser the particles through which sound passes the

Read before the Annual Meeting, Virginia Society Orthopaedic Surgery, National Orthopaedic and Rehabilitation Hospital, Arlington, April 18, 1964.

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faster it travels. For example, sound travels through air at 1,087 feet per second, through water at 4,757, through iron at 16,730 and through glass at 18,050 feet per second.

As the frequency of sound waves are increased the shorter the wave length and the greater the transmission of energy. Ultrasound as used in medical practice is pre-set at one million oscillations per second, does require fluid for their propagation and does have the ability to excite molecules in liquids, to heat them, to kill bacteria,¹ and to fragment viruses.

Ultrasound waves are 1.5 mm in length (Figure #2). These waves travel through

$$\lambda = \frac{V}{n} = \frac{1.5 \times 10^5 \text{ cm/s}}{10^6 \text{ c/s}} \\ = 1.5 \times 10^{-1} \text{ cm} - 1.5 \text{ mm}$$

λ = wave length

V = velocity

n = frequency (1 megacycle)

Figure #2

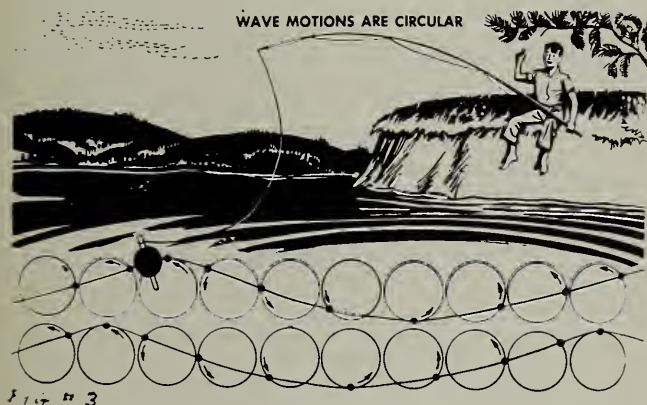
water and human tissues at 1.5 Km per second (3080 m.p.h.) and are independent of wave motion. The greatest difference in tissue pressure which exists at any given instant is between two points half-a-wave length (0.75 mm) apart. At a setting of 1 watt/cm² this is two atmospheres. If the power was increased to 10 watts, cavitation of the tissues would occur which would then collapse violently with an explosive noise.

The intensity of ultrasound, as used clin-

ically, varies from about 0.6 to 2.0 watts per square centimeter of crystal surface in the transducer. With an intensity of 1 watt/cm² the molecules of the medium oscillate 0.02 microns about their mean position. The linear movement and velocity of individual particles are slow, yet the acceleration is tremendous.

For example, a tidal wave after an earthquake moves across the ocean at 1,000 m.p.h., yet it is obvious the water is not actually moving that fast and if you were in a boat in the middle of the ocean you would probably not notice it at all.

This tremendous transmission of power is created by the circular movement of individual particles one against the other and is comparable to the motion of a fishing bobber when a pebble is dropped in still water (Figure #3). Actually each individual particle



of water is moving through an incredibly short distance in a circular motion. Ultrasound energy is propagated in a similar manner.

Clinical Application

The successful clinical application of ultrasound therapy is based upon the understanding of its thermal, mechanical and colloidal effects. The less the wattage the less the penetration and the more evident the thermal effect. The greater the wattage the greater the mechanical and colloidal effect. These physical factors of ultrasound kinetic energy together with the physician's understanding of normal human physiology and its variations under different pathologic states

permit a rather accurate determination of wattage, time and method of application to secure maximum therapeutic effect in the shortest period of time. To give instructions to your office nurse or to the physical therapist that this patient should have three treatments of ultrasound to his shoulder is comparable to writing a prescription for the druggist saying give this patient three doses of an antibiotic.

Whiplash Injury

Ultrasound combines a slight deep-heating effect with a beneficial form of "micro-massage". This cuts down the formation of fibrous adhesion and scar tissue, helps absorb abnormal collections of fluids in bursae and joints and hemorrhage which have occurred in the tissues. It prevents or reduces abnormal calcium deposits and encourages better circulation and oxygenation of the tissues.²

Arthritis

Ultrasound undoubtedly has had its most extensive application on those suffering from degenerative, rheumatoid and Marie-Strumpell arthritis and has warranted its use in benefiting these patients. Anywhere that pain is experienced our body will attempt to isolate or protect that area by spasm of musculature. This accounts for muscle spasm which is palpable and the muscle spasm of the arterioles which reduce the normal blood flow to the affected part. This later action denies the normal amount of oxygen and other nutrient elements being delivered to the involved tissues and cellular atrophy and reactions result. This may be manifested by synovitis with excess exudate at periodic intervals. With pain the patient will move a joint as infrequently as possible and through as small a range of motion as possible. If this painful condition persists atrophy of disuse of the muscles which activate this joint and loss of normal elasticity of the ligaments and capsule of the involved joint will result.

Thus it becomes imperative we break this

pain cycle and increase circulation to the joint and to the muscles which activate it. Ultrasound alone does not fully accomplish this but it will often be effective in lessening the pain to such an extent that active and passive motion can be instituted.

When the pain is less the patient is less tense, rests better, eats better and is more active.

It has been reported that in Marie Strumpell arthritis in which the rib cage is apparently fixed and forward flexion of the hips is zero ultrasound over the vertebral-costal junctions will immediately permit increased vital capacity although the x-ray findings are unchanged. Also ultrasound over the hip joints will permit increased body flexion at the hips.

Bursitis

Bursitis may be anywhere over the body but I will limit my comments to the shoulder. The most common conditions are referred to as acute, subacute, and chronic calcified bursitis, or acute tenosynovitis or the frozen shoulder.

Ultrasound has been effective as an adjunct in treating these conditions, eliminating the pain, and restoring function.³

In all painful shoulders you are striving to alleviate pain and when you do have pain you have less than the normal physiological blood supply to the tissue in question. Therefore, you must increase the flow of blood. Frequently the patient is told to get a heating pad or a hot water bottle without giving specific instructions for their use. What happens? The patient overtreats himself, the underlying tissues are "burned", more pain results and on and on for days, weeks and months.

If you use ultrasound on a shoulder do not apply any other type of energy that day. If you are not using ultrasound but are permitting your patient to use a heating pad have him apply it at the "low setting" for only 10 to 15 minutes. There should be a non-treatment interval of at least four hours.

Low Back Syndrome

Most low backs are the result of acute or chronic strain and usually do respond to rest, salicylates, muscle relaxants, pelvic traction, hot packs, massage, exercises and corrective posture training. Yet there are exceptions. Neurological findings may be negative and the myelogram may be negative yet low back and sciatic pain continues, lumbar erector muscle spasm persists and straight leg raising is positive. When such a condition presents itself I would suggest daily ultrasound of rather high wattage over the lumbar and lumbosacral area and the involved sciatic nerve. It is often dramatically effective in alleviating the pain and permitting an exercise program to recondition the patient's back.

Herpes Zoster

Those cases of herpes zoster which persist as burning, stabbing pain after the vesicles subside may very well respond to direct sonation over the affected nerve.

Dupuytren's Contracture, De Quervain's Disease, Painful Scars

These conditions result from connective tissue abnormalities. When permitted to advance too far the only recourse is surgery, but if noted early ultrasonation can frequently restore the circulation and elasticity to the connective tissue cells involved and in turn stop or reverse the progression of the disabling process.

Plantar Warts

It has been recognized throughout the years that surgery, cauterization, liquid nitrogen, acids, etc. have, in a large measure, been unsuccessful in the treatment of the painful plantar warts. Ultrasound applied in low wattage 0.5 to 0.8 watts per Cm^2 for 10 minutes about twice a week for a total of six to 8 treatments has been successful in many cases.⁴

Although I will not discuss additional

therapeutic indications for ultrasound I assure you there are many, such as, for example, myositis ossificans, scleroderma, temporo-mandibular bursitis and others.

Contra-Indications for Ultrasound

Ultrasound should not be applied to malignancies and especially skin cancers. It should not be directed into the eye, over the pregnant uterus, the gonads or on to skin with sensory impairment. Likewise, it should not be directed over the epiphyseal areas of juvenile bone or to areas of marked arterial insufficiency.⁵

Abuses in Ultrasound

The greatest abuse in the use of ultrasound is propagated by the physician who succumbs to the salesman's pitch that it is a good source of revenue.

The physician does not have to be physician to correctly prescribe ultrasound but he must know how to prescribe its modes of application, wattage, time and frequency. Also he must know how to interpret the effect of each treatment depending upon the patient's reaction to the last treatment. Undertreatment is not effective. Overtreatment is harmful.

Conclusion

Therapeutic ultrasound oscillates at one megacycle in a longitudinal wave form of compression and rarefaction. These waves are 1.5 mm in length and at one watt per centimeter square creates pressure differences in the tissues of about two atmospheres. This action and frequency produces thermal, mechanical and colloidal effects in the sonated tissues resulting in an increase in cell permeability, an increase in blood and lymph supply to the tissues and an increase in cel-

lular metabolism. Ultrasound reduces the threshold of irritability of nerves and reduces the action potential.⁶ Ultrasound is not just another form of heat.

At the 1962 Annual Meeting of the American Institute of Ultrasonics in Medicine a paper was presented entitled "Ultrasonic Therapy in Arthritis and Discogenic Diseases of the Spine—A Ten Year Study". The author⁷ did conclude his presentation by saying: "Of course we claim no cure all with ultrasound. Ultrasonics offers nothing for cancer, tuberculosis, and a myriad of other disorders, but beyond question in our 15,000 patients over a period of 10 years, it is confirmed definitely that ultrasonic energy offers the finest means available in medicine for the relief of pain in a host of traumatic and muscular disorders".

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Obstruction of the Colon in the Newborn and in the Infant

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Obstruction of the colon in patients of this age is an alarming situation and often emergency surgery is necessary. Special techniques in diagnosis and treatment are required.

DURING THE LAST FIVE YEARS at the King's Daughters Children's Hospital and the Norfolk General Hospital the problem of real or apparent colonic obstruction in the newborn or young infant has been encountered in twelve cases. Cases of imperforate anus have been excluded because this abnormality is generally obvious to inspection.

In recent years there has been considerable interest in the problems of congenital ag-

type of neonatal obstruction due to "meconium plug syndrome" in which cases the colon, though normally innervated, is obstructed by an inspissated meconium plug. Others^{1,7,10} have reported on the presence of colonic ileus secondary to sepsis or anoxia.

Table I shows that of the twelve cases three were proven to be due to congenital

TABLE I
OBSTRUCTION OF COLON IN NEWBORN AND INFANT

Diagnosis	Total No.	Deaths	Prematurity
Hirschsprung's Disease	3	0	0
Meconium plug syndrome	4	0	0
Sepsis, colitis, miscellaneous	5	4	3

aganglionic megacolon and four were due to "meconium plug syndrome". Both groups were treated without a fatality. There were five cases in which there was apparent colonic obstruction associated with sepsis, fulminating ulcerative colitis, or due to unknown cause; and in all perforation of the bowel occurred.

TABLE II
OBSTRUCTION OF COLON IN NEWBORN AND INFANT
Congenital Aganglionic Megacolon (Hirschsprung's Disease)

Case	Onset of Symptoms	Age at Diagnosis	Treatment	Result
H.P.	Neonatal	8 weeks	Colostomy, Duhamel Procedure	Satisfactory
P.M.	11 days	14 weeks	Colostomy, Duhamel Procedure	Satisfactory
W.P.	Neonatal	4 weeks	Colostomy	Satisfactory

glionic megacolon or Hirschsprung's Disease in the newborn and its differential diagnosis.^{2,6,12,14} Clatworthy⁴ has reported on a

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Presented at the Annual Meeting of the Virginia Surgical Society held at Williamsburg, May 11, 1963.

Congenital Aganglionic Megacolon (Hirschsprung's Disease)

The following two cases illustrate the problems encountered with neonatal congenital megacolon as illustrated by cases seen in Table II.

Case 1 was a male infant who was seen because of abdominal distention, bilious vomiting, and the absence of stool for thirty-six hours since birth. On rectal examination a clear meconium plug was passed, and this was followed by a large amount of tenacious meconium. A barium enema was obtained which showed no changes suggestive of Hirschsprung's Disease. The infant appeared to do well and was discharged home. At home he was noted to have pro-



Fig. 1—Case 2 showing abdominal distention. The enlarged colonic loop is visible in the left upper quadrant.

gressive abdominal distention, although he continued to have six to eight small pasty

The abdomen was tense and full, with flaring of the lower rib cage. A culture of the brownish foul-smelling small stools grew out *Salmonella*. The infant was placed on antibiotic therapy which failed to eliminate the *Salmonella* from the stool. He required daily to multiple saline irrigations of the colon to relieve the distention. A repeat barium enema was suggestive, but not diagnostic, of Hirschsprung's. A rectal biopsy was taken which showed aganglionosis. The infant had an elective sigmoid colostomy performed and did well postoperatively. He was readmitted at five months of age and a Duhamel procedure performed with resection of the rectosigmoid. The postoperative course was complicated by the recurrence of enterocolitis which was probably due to obstruction at the site of anastomosis. This is in agreement with Bill's² observation that enterocolitis which has existed preoperatively may often occur postoperatively. Following a further crushing of the spur between the colon and rectum to enlarge the anastomosis this infant did quite well.

Case 2 was an eleven-day-old female in-

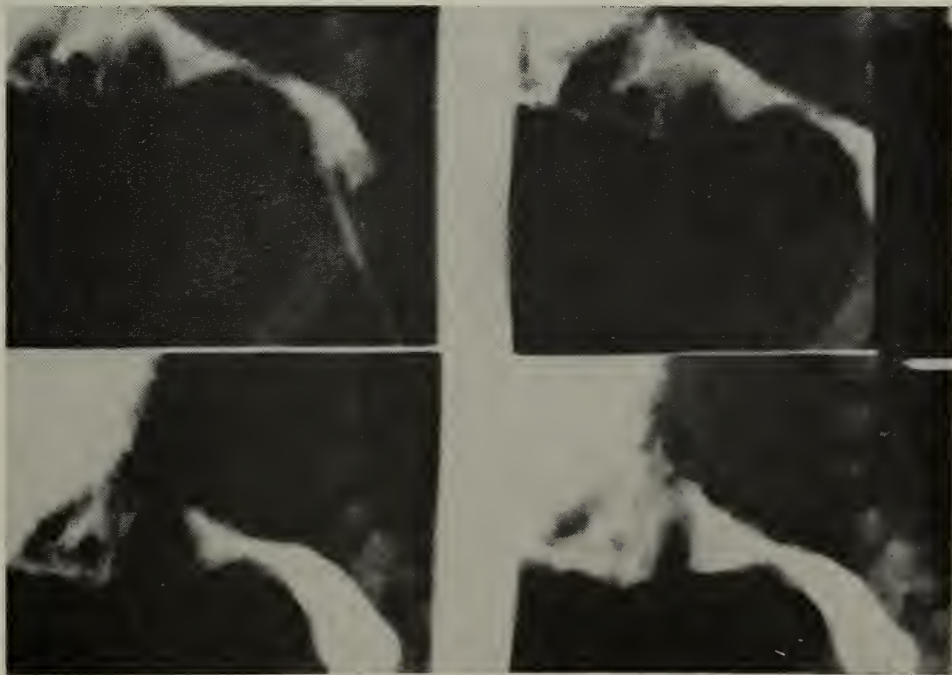


Fig. 2—Case 2—X-rays of barium enema showing a narrowed recto-sigmoid segment.

stools per day. He gained weight slowly, and at age eight weeks was readmitted because of the persistent abdominal distention.

fant admitted because of obstipation and abdominal distention for forty-eight hours. The infant had vomited twice, but had had

stools since birth, and, indeed, had "stooled normally" on the day of admission. Figure 1 shows the appearance of the infant on admission with abdominal distention. The x-rays shown in Figure 2 show evidence of a narrowed area in the rectosigmoid with changes in the bowel wall suggesting a colitis. Colonic irrigation of this child was rather characteristic of Hirschsprung's Disease. Because of continuing distention, a sigmoid colostomy was performed on the fourth day of hospitalization. A biopsy of the muscularis and serosa of the sigmoid was obtained at the same time from within the peritoneal cavity. This biopsy showed a total absence of ganglion cells. The bowel at the time of operation was extremely friable and one

TABLE III
OBSTRUCTION OF COLON IN NEWBORN AND INFANT
Meconium Plug Syndrome

Case	Age at Diagnosis	Treatment	Result
R.G.M.	3 days	Digital examination	Normal baby
B.G.M.	1 day	Barium enema	Normal baby
G.M.	2 days	Digital examination	Normal baby
BB Waff	1 day	Digital examination	Normal baby

could easily see how this bowel could have been perforated by continuing irrigations. This infant did well with a sigmoid colos-

Meconium Plug Syndrome

The typical history of the newborns presenting with meconium plug syndrome was of bilious vomiting at 12-36 hours of life, distention of the abdomen, an absence of stooling, or the passage of a very small amount of meconium. The x-rays of the abdomen were usually not suggestive of obstruction to the extent that was seen in neonatal Hirschsprung's. Quite frequently after the rectal examination, a clear mucous plug was passed which was followed by decompression. It is our feeling, however, that these children should be carefully watched in the light of our having made this diagnosis twice on infants who later were diagnosed as having aganglionic megacolon. Table III summarizes our experience with four cases of meconium plug syndrome.

Colon Obstruction Due to Sepsis or Unknown Cause

Table IV summarizes the five cases who presented with apparent obstruction of the colon due to unknown cause, colitis, or sepsis. This group of patients has similarities to those reported by Waldhausen¹⁵ and by Fonkalsrud.⁸

Two cases presented a similar picture of

TABLE IV
OBSTRUCTION OF COLON IN NEWBORN AND INFANT
Sepsis, Colitis, Miscellaneous

Case	Weight	Contributing Factors	Age of Onset	Findings	Treatment	Result
R.H.	7-6 lbs.	?	1 day	Perforation of sigmoid	Colostomy	Survived
R.T.	4-2 lbs.	? sepsis	6 days	Perforation of cecum	Colostomy	Died
C.H.	5-9 lbs.	? aganglionosis	1 week	Perforation of ascending colon, postoperative	Colostomy	Died
E.L.	4 lbs.	Cyanotic heart disease	4 weeks	Perforation, sigmoid, septic necrosis of small intestine	Ileostomy	Died
E.M.L.	7 lbs.	Septicemia	8 weeks	Necrosis trans. colon	Cecostomy Colectomy	Died

tomy. She was readmitted at fifteen months of age and had a Duhamel procedure without complication.

prematurity and early abdominal distention, for which a colostomy was performed or was proposed. Both of these newborns died

with perforations of the cecum or right colon. Regardless of the etiology, if colonic obstruction exists and cannot be relieved, it is necessary in some instances to perform rapid decompression.

Case 11 was a small premature with known congenital cyanotic heart disease. This premature was admitted at about four weeks of age because of bilious vomiting and abdominal distention. A blood culture taken on admission was found to be positive for *E. coli* for which antibiotics were given. The infant's distention was treated with saline rectal irrigations and appeared to improve. She developed distention again and exploration was performed because of a possible pneumoperitoneum noted on abdominal examination by x-ray. At surgery she was found to have necrotic perforations of the cecum and of the descending colon, and an area of gangrene in the jejunum just beyond the ligament of Treitz. Resection of the jejunum with jejunojejunostomy, a Mikulicz ileostomy and drainage of the perforations was carried out under local anesthesia. The infant survived for only three days post-operatively. At autopsy she was found to have an extension of gangrene into the fourth portion of the duodenum proximal to the anastomosis. In retrospect it is believed that the sequence of events was the development of a enterocolitis due to *E. coli*, secondary septic endocarditis on the inter-ventricular septal defect (substantiated at autopsy) and septic embolism from the vegetations to the intestinal tract causing gangrene.

Case 12 presented at two months of age with a bloody purulent diarrhea and abdominal distention. This female infant was admitted and also seemed to improve with saline rectal irrigations. Barium studies of the colon were interpreted as being suggestive of Hirschsprung's Disease, but in retrospect these failed to show the twenty-four hour retention that normally would be expected. A cecostomy was performed in this infant for decompression. Shortly thereafter the infant appeared to do very poorly and

was re-explored. She was found to have a complete slough of the transverse colon similar to that seen in a fulminating ulcerative colitis. In this case the blood culture was also positive for *E. coli*. A sub-total colectomy was attempted since exteriorization was impossible but the infant did not survive the early postoperative period. Figure 3 shows the specimen of the resected bowel.



Fig. 3—Case 12—Surgical specimen of subtotal colectomy. The cecum is identified by the remnant of the rubber tube and the almost complete destruction of the transverse colon is also evident.

Discussion

The problem presented by real or apparent obstruction of the colon in the newborn or early infant is an urgent one, because of the possible complications which can ensue. The distention of the delicate colon of the infant can easily result in perforation. Cruze⁵ has noted that there is an 87.5% mortality in perforation of the colon in the neonate and early infant, which is higher than that which follows perforation of the colon in the 70-80 year old group. In the presence of congenital aganglionic megacolon the second complication, also carrying a very high mortality, is that of enterocolitis. The enterocolitis—either viral or bacterial—is similar to the enterocolitis which is seen in partial obstruction of the colon secondary to carcinoma or of the ileum where one has an ileostomy stricture.² The losses of water and of electrolytes into the bowel may be great and the ensuing shock may be fatal. Early colostomy, therefore,

is often life-saving in cases of aganglionic megacolon. It must be emphasized that these infants can change from apparently well to critically ill in a few hours. The third complication noted in this group has been septicemia. Bacterial invasion of the blood stream secondary to distention of the colon in the newborn can occur. The appearance of the distended and almost transparent colon suggests the ease with which ulceration can lead to overwhelming septicemia.

Diagnosis

In approaching the patient with apparent colonic obstruction abdominal distention appears to be one of the most constant and reliable symptoms. The usual history of obstipation with which the older child with Hirschsprung's presents may not be seen in many of the cases of Hirschsprung's. Diarrhea, which is similar to an overflow incontinence, may actually be the presenting problem, as was true in two of our three cases of Hirschsprung's Disease. Distention of the colon due to ileus may occur as a result of sepsis, anoxia, or disease apart from the peritoneum.

On abdominal examination of the infant with colonic obstruction often distended intestine can be palpated. The presence of an apparent erythema or cellulitis of the abdominal wall should immediately make one suspect perforation and peritonitis. A rectal examination is always mandatory, and in many cases with meconium plug syndrome will actually prove therapeutic.

The keystone of the diagnostic investigation is the radiographic examination. Plain films of the abdomen utilizing air as a contrast medium often aid in making the diagnosis. Flat, upright anteroposterior, lateral upright and inverted lateral views should be obtained. Even with these views, it is often impossible to differentiate gas-distended large bowel from distended small bowel. It is for this reason that a barium enema should be performed in all instances of possible colonic obstruction in newborns or infants. The barium enema should be performed carefully

under fluoroscopic control utilizing a small straight rectal tip and a saline-barium mixture. Care should be taken not to overdistend the colon since this has on occasion resulted in perforation or obscured a localized lesion of the bowel. Post-evacuation films should be obtained at twenty-four and forty-eight hour intervals since these are often the only diagnostic films obtained in the young infant with Hirschsprung's Disease.

Treatment

One of the first measures to be undertaken is the irrigation of the distended colon with warm saline, and an attempt to release the gas and stool behind the "spastic" bowel in congenital megacolon. Often with the passage of a large rectal tube through the spastic recto-sigmoid and into the dilated segment there is a gush of flatus and stool with almost dramatic improvement in the general condition of the infant. It is important to utilize saline for irrigations or enemas for these patients as deaths have been reported from water intoxication with water or soap sud enemas. As noted in Case 1, there appears to be a very real danger of perforation of the friable bowel with the rectal tube. In general it is safer to use a large soft rectal tube than a small stiff one.

Early colostomy is important for decompression in colonic obstruction, and particularly so in cases of congenital megacolon. In some cases it may even be necessary to omit rectal biopsy where the distention is too marked, as was done in some of our cases. The advantages of early colostomy in congenital megacolon are illustrated by a mortality with medical management of megacolon of over 70%. This falls to 33% if colostomy is performed after the appearance of enterocolitis. Colostomy performed prior to enterocolitis has resulted in a mortality of only 4%.¹⁴ The choice of site for colostomy varies, although in all cases it must be proximal to the aganglionic segment. Bishop³ prefers transverse colostomy with a loop; while others prefer sigmoid

colostomy with resection of the colon at the time of definitive operation. All agree on the necessity for suturing the peritoneum to the bowel wall and fixation of the two loops to prevent herniation. All of this differs with the usually accepted techniques in adults where such suturing is considered ill-advised.

Performance of a rectal biopsy for congenital megacolon differs from the usual colonic biopsy for malignancy. It cannot be done through a sigmoidoscope in the usual manner, although Shandling¹¹ has recently suggested that a generous biopsy of the valves is sufficient for diagnosis. For proper biopsy both layers of muscle must be obtained since the ganglion cells of Auerbach's plexus lie between the circular and longitudinal muscle.

We have had only a limited experience with the Swenson and Duhamel procedures, although the results from both in congenital megacolon have been good.^{13,9}

Conclusions

We have discussed our experience with twelve cases of obstruction of the colon in the newborn and early infant, and believe that this is often a surgical emergency. Excluding cases of meconium plug syndrome, obstruction of the colon in a neonate or infant which is not relieved by irrigations, may need early surgical decompression by colostomy. In all cases of congenital aganglionic megacolon or suspected aganglion megacolon a proximal colostomy should be performed for decompression when the diagnosis is established or fairly certain. The x-ray diagnosis of colonic obstruction is quite tricky and difficult. A barium enema should be obtained in all cases of infantile colonic obstruction and the techniques which have been mentioned should be rigidly observed.

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Recognition and Treatment of Aortic Fracture

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Although usually a catastrophic injury, a few cases of traumatic rupture of the aorta can be saved by prompt recognition and treatment.

THE OCCURRENCE of recognized traumatic aortic fracture is relatively rare, due, in part, to the rapid onset of shock and death. A review of existing literature reveals that 275 cases of aortic fracture have been described with the greater majority (156) due to crushing injuries from automobile accidents. Only 14% of the 275 cases cited survived the initial trauma and of these only 10 survived for one week.¹ Survivors are divided into two groups: 1—those recognized early because of aortic obstruction from dissection and occlusion of the true lumen and 2—those not recognized early but later developing aneurysmal dilatation. The mechanism of fracture is uniquely similar³ and usually occurs in the distal thoracic aorta beyond the great vessels. This peculiar uniformity is probably related to the fixation of the descending aorta in its paraspinal location as contrasted to the ascending aorta located in a more movable position within the middle mediastinum.

Traumatic aortic rupture usually results in sudden, or near sudden death. Those patients who survive the initial trauma usually expire from secondary rupture within four weeks. It is obvious from the above statistics that early recognition and surgery be performed if survival is to be hoped for.

Recognition

Recognition of aortic fracture is often clouded by multiple injuries—cerebral concussion, fractured ribs, intra-abdominal trauma, etc. After initial evaluation of the trauma with inspection for extremity deformity, pneumo- or hemothorax, the introduction of a bladder catheter to rule out bladder rupture and control of shock with intravenous whole blood or plasma expanders, a chest x-ray should be obtained in the upright position. Any widening of the superior mediastinum should immediately

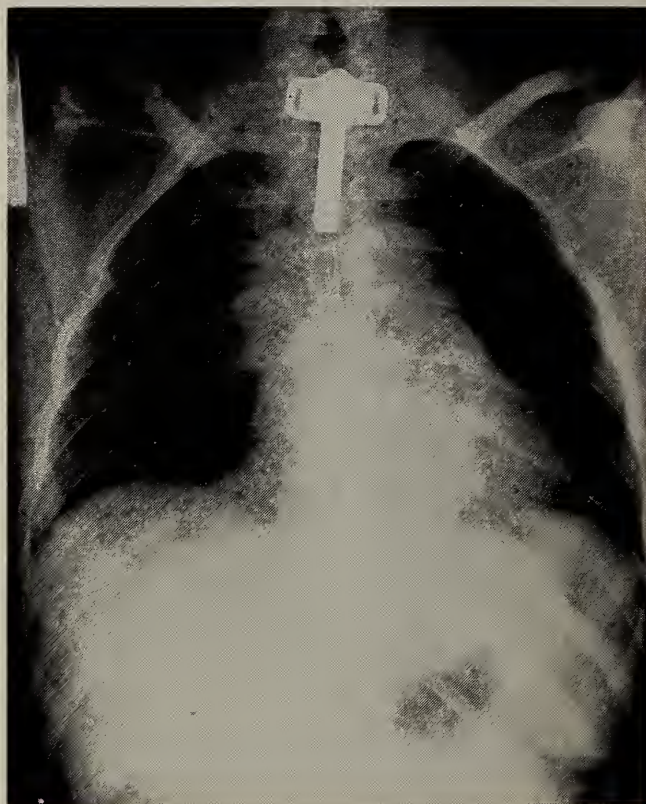


Fig. 1. Note marked widening of superior mediastinum secondary to aortic fracture and dissection.

cause suspicion of an aortic fracture. If, in addition to this, the femoral pulses are markedly diminished or absent, the tentative

diagnosis of aortic fracture with dissection and true lumen obstruction must be made.

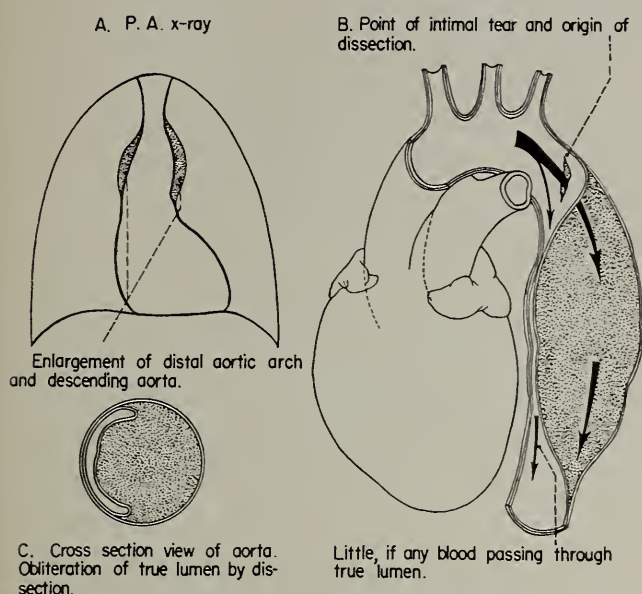


Fig. 2. Self-explanatory diagrams indicating normal location of intimal tear.

This diagnosis makes mandatory an exploratory thoracotomy providing the basic general condition is satisfactory.

Methods of Repair

For the simple aortic fracture distal to the subclavian artery and without maceration of the aortic wall, simple transection of the aorta with re-anastomosis will suffice. This requires division of several pairs of intercostal vessels and sufficient mobilization to allow trimming of the damaged segment of the aorta and end to end anastomosis. If a significant dissection has occurred with true lumen obstruction or where a longer segment of aorta is damaged, a graft replacement of Teflon or Dacron is necessary. For extensive fractures with lumen obstruction a shunt from the left atrium to the femoral artery with an interposed pump may be necessary.^{4,5}

The use of hypothermia as an adjunctive agent is important since this allows a longer period of aortic occlusion without renal or cerebral damage. Temperatures are lowered to about 28 to 30 degrees centigrade and maintained for four to six hours postopera-

tively. This also aids in the prevention of postoperative hypotension and organ hypoxia.

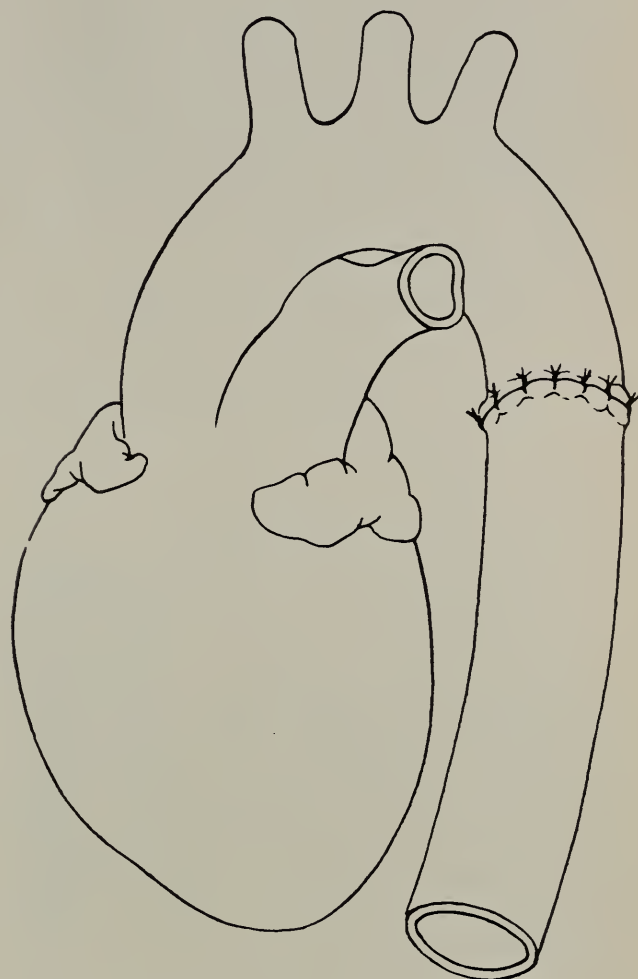


Fig. 3. Repair by DeBakey method or complete severance of aorta and end-to-end anastomosis.

Case Illustration

A 24-year-old white male in an automobile accident suffered a head injury. He remained conscious for several days, but complained of severe leg and chest pain. X-rays were negative for extremity or skull fracture. He became suddenly comatose and burr holes were performed to explore for subdural or epidural bleeding. This exploration was negative. A second chest x-ray revealed marked widening of the superior mediastinum and in conjunction with absent femoral pulses it was felt that an aortic fracture had occurred distal to the subclavian artery and that a cerebral embolus had re-

sulted with its site of origin at the intimal tear. Despite the obvious cerebral damage it was felt that an attempt at repair of the fractured aorta should be performed. A thoracotomy revealed complete obstruction of the descending aorta with intimal dissection and aortic fracture beginning about one inch distal to the subclavian artery. A straight Teflon graft was used to replace the

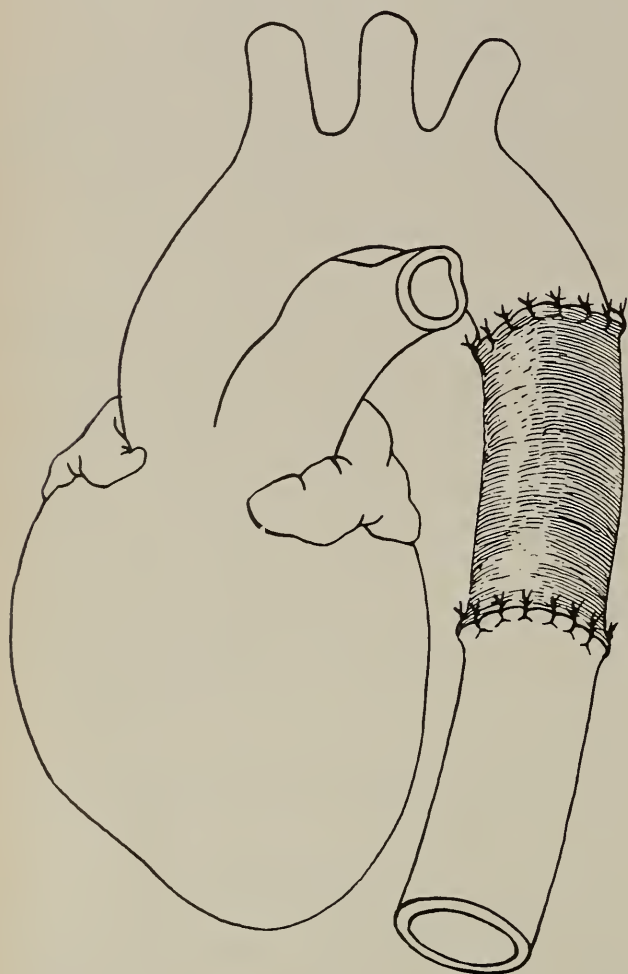


Fig. 4. Prosthetic graft (teflon, or dacron) to reestablish true lumen and obliterate intimal opening.

damaged aorta and re-establish a true lumen. The patient expired the night following surgery despite the re-establishment of satisfactory peripheral pulses and apparent renal function. A postmortem examination revealed many cerebral emboli which undoubtedly originated at the site of intimal tear and dislodged suddenly into the left common carotid vessel.

Summary and Conclusion

The occurrence of aortic fracture following a crushing injury as occasioned in automobile accidents is usually immediately fatal. This fact has meant that many patients who had aortic fractures and survived the initial period of shock were not diagnosed as such and expired within a four to six day period because of inadequate attention. It is possible to establish the diagnosis of aortic fracture if the index of suspicion for this is high and if specific signs and symptoms are looked for. 1. Chest x-ray should be obtained as soon as possible following the trauma to determine whether or not superior mediastinal widening has occurred.

RECOGNITION AND TREATMENT OF AORTIC FRACTURE

1. "Index of suspicion" high in all traumatic chest injuries especially steering wheel trauma to anterior chest.
2. Serial chest x-rays to determine any enlargement of superior mediastinum.
3. Frequent checks of both femoral and radial pulses. A decrease in femoral pulses strongly suggests aortic fracture with true lumen obstruction.
4. Early thoracotomy where strong suspicion of aortic fracture occurs. Treatment consists of:
 - (a) Simple aortic resection with end-to-end anastomosis.
 - (b) Complete replacement grafting with Teflon or Dacron where long aortic segment damage has occurred.

Fig. 5

It is also important to obtain a chest x-ray a day or so following the initial episode for comparison to see if there has been mediastinal enlargement since the previous study. 2. Femoral pulses should be carefully palpated and if these disappear or become diminished then the possibility of aortic fracture should be strongly considered.

The level of aortic fracture usually occurs distal to the subclavian artery and in the descending thoracic aorta. This means that frequently a small segment of the aorta itself can be removed with a graft replacement, or indeed the aorta can be transected and re-anastomosed without requiring a prosthesis.

Since crushing injuries of the chest occur frequently in automobile accidents and in relatively young people, it behooves the examining physician to investigate the possibility of an aortic fracture in these patients since it is possible to remedy this problem and salvage a life in a selected few.

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Artificial Ear Organ

Speech has been transmitted to a previously deaf patient through an experimental electronic induction coil substituting for an essential organ of the ear. The device serves as an artificial organ of Corti, that part of the ear's sea shell-shaped cochlea which transforms sound waves into impulses transmitted to the brain via the acoustic nerve.

The report by James H. Doyle, B.S., John B. Doyle, Jr., M.D., and Frederick Myles Turnbull, Jr., M.D., Los Angeles, appears in the October Archives of Otolaryngology, published by the American Medical Association.

The induction coil used for this patient was a four-channel unit. It was believed that electrical stimulation of several portions of the acoustic nerve independently might increase the band-width and enable the patient to obtain useful speech perception. Four separate electrodes were introduced in four different locations in the cochlea of the

patient who had acquired perception deafness. Perception deafness results from conditions involving the cochlear structures or the nerve of hearing. The four electrodes were stimulated in sequence. In this manner it was possible to introduce electrical signals at 600 cycles per second (cps) in four areas of the nerve which when combined would arrive at higher auditory centers at the rate of 2,400 cps.

"Definite speech perception attained by such complex stimuli enabled the patient to repeat phrases." However, it now appears that a 16-channel unit will be required in order to pass audio signals similar to telephone transmission.

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Idiopathic Recurrent Pericarditis

A Case Report

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Idiopathic recurrent pericarditis can be a disabling disease as this case shows. Parietal pericardiectomy may give lasting relief.

THE CLINICAL COURSE of idiopathic benign pericarditis is not infrequently characterized by recurrences. Such recurrences may induce prolonged and severe morbidity, long periods of incapacity for work, the need for frequent and costly hospitalizations, morbidity-related psychiatric illness. In 1957 parietal pericardiectomy was advanced as a technique for halting such recurrences. This is a case report describing such a patient with symptomatic, therapy unmodified, psychologically disruptive idiopathic recurrent pericarditis who after parietal pericardiectomy was free of recurrences for the twenty-two months of follow-up. The similarity of idiopathic recurrent pericarditis to postmyocardial infarction syndrome, postcardiotomy syndrome, and post-traumatic postpericardiotomy syndromes suggests some speculations as to a unitary pathogenesis.

Case Report

R.E.J., a 22-year-old white male locomotive fireman was initially hospitalized at the Norfolk General Hospital September 25, 1958, to October 12, 1958. In July, 1958, he had a "chest cold and sinus attack" without sore throat. Three weeks later (September 11) he developed sticking pains in the

anterior chest. On September 24, 1958, he developed severe aching substernal pain with radiation into the base of the neck; the pain was aggravated by deep breathing and change in position, ameliorated by sitting forward and by hypoventilating. On physical examination, temperature was 100.8 (R); pulse, 100; blood pressure, 124/80. Examination revealed no exanthem, no lymphadenopathy, a normal pharynx, no cardiac abnormalities, clear lung fields, no hepatosplenomegaly. Laboratory data are summarized in Table 1. Chest x-ray was normal. Electrocardiogram on admission revealed S-T elevations in leads 1, 2, aVl, aVf, V2-V6. Five days later S-T segments had returned to the isoelectric line and TaVl had inverted. Therapy consisted of bed rest, intra-muscular procaine penicillin 600,000 units q12h, triaminolone 4 mg q4h, oxygen by tent, morphine. He was afebrile after September 28, 1958. His pain slowly improved over the 18 days in the hospital. On discharge, he was asymptomatic. Triaminolone was discontinued over the subsequent week without return of symptoms.

His second hospitalization was from January 5, 1961, to January 10, 1961. A sore throat and cold developed on December 18, 1960. This was treated with 600,000 units intramuscular procaine penicillin daily. On January 2, 1961, severe substernal pain with radiation into the neck and both shoulders appeared. Although he had not missed time from work and had not consulted a physician, he had experienced mild episodes of similar chest pain during 1959 and 1960. On physical examination, temperature was 99.6 R; pulse, 94; blood pressure, 135/85. Physical examination was again unremark-

able. Laboratory data are summarized in Table 1. Chest x-ray was normal. Electrocardiogram revealed S-T elevations in leads 1, aVI, V4-V6. Therapy consisted of bed rest, 600,000 units procaine penicillin intramuscularly q12h, acetylsalicylic acid 600 mg q4h, triamcinolone 5 mg q4h. He remained afebrile. Pain subsided by January 10, 1961. He was discharged on gradually decreasing doses of triamcinolone over the subsequent week without recurrence of symptoms.

felt a scratchy substernal rub. On physical examination, temperature was 99.6 R; pulse, 80; blood pressure, 124/82. Examination of the chest revealed diminished breath sounds in the left base posteriorly. On auscultation of the heart, a pericardial friction rub was heard. The remainder of the physical examination was negative. Laboratory data are summarized in Table 1. Chest x-ray showed borderline cardiac enlargement with increase in overall heart size in comparison with study of January 6, 1961, and minimal left pleural

TABLE I
LABORATORY DATA

TEST	(9-25-58)-(10-12-58)	1-5-61-1-10-61	7-23-61-8-20-61	10-6-61-10-11-61
Hemoglobin (GMS %)	14.1	13.2	11.7	12.2
Hematocrit (%)	42 45	44	38	38
Total Leucocyte Count	9200; 9500; 11,000	8100	8000	8100
Neutrophiles	72; 70; 75	52	64	64
Lymphocytes	20; 20; 19	40	25	23
Eosinophiles	3; 1; 2	3	1	3
Monocytes	3; 4; 3	4	10	10
Sedimentation Rate	31/24, 15/12	39/30		
C-Reactive Protein	3+			
Glutamic Oxalo Acetic Transaminase (Units)	31	26		
Heterophile (Unabsorbed) (Absorbed)	1:7		1:114 1:14	
Antistreptolysin Titer	166	125	50; 100	
Albumin (GMS %)		4.7	4.2	
Globulin (GMS %)		1.9	2.2	
Lupus Preparation			Negative	
Urinalysis	Negative	Negative	Negative	
Bun (MG %)	11		12	
PPD #2	Negative			
Venous Pressure			95 mm	

His third hospitalization was from July 23, 1961 to August 20, 1961. Between January and July he had experienced several recurrences of substernal pain, none preventing work or inducing visits to his physician. In early July, he had a running nose and cough. On July 22, he developed severe substernal pain with radiation into the neck and both shoulders. In certain positions he

effusion (Figure 1). Electrocardiogram documented S-T elevations in leads 1, 2, 3, aVI, aVf, V4-V6. Therapy consisted of bed rest, procaine penicillin 600,000 units intramuscularly q12h, prednisone, 15 mg q4h, morphine for pain. Pain persisted unchanged for three weeks. He became quite disturbed emotionally, had spells of sobbing, refused to remain in bed, talked of suicide, demanded

frequent injections of narcotics, insisted he was never pain-free, regressed to infantile, demanding behavior. He remained afebrile. The prednisone, after two weeks of 80 mg daily dosage, was tapered and discontinued

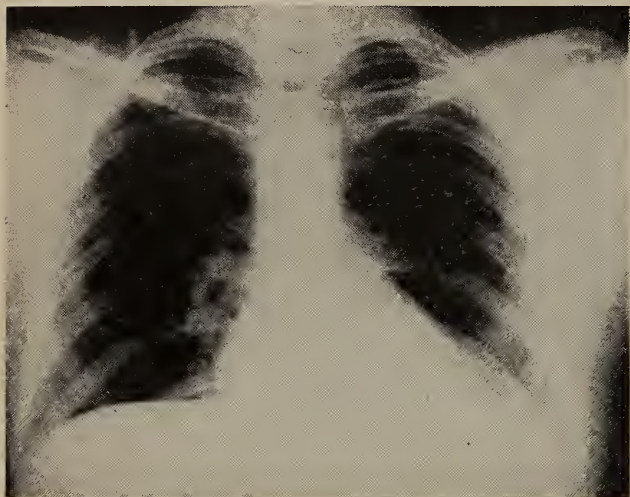


Fig. 1. Chest x-ray, October, 1961, showing cardiac enlargement and left base subsegmental atelectasis and pleural reaction.

effusion. Electrocardiogram disclosed return of S-T elevations to the isoelectric line with T-wave inversions in Leads 1, 2, 3, aVl, aVf, V4-V6. He was discharged to continue rest at home. He returned to work in early September, 1961.

His fourth hospitalization was from October 6, 1961, to October 11, 1961. On September 19, 1961, he developed a respiratory infection. On October 3, 1961, substernal pain recurred. On admission physical examination the temperature was 99.6 R; pulse, 80; blood pressure, 130/80. Physical examination was negative. Electrocardiogram showed S-T elevations in Leads 2, 3, aVf, V1-V6. Therapy consisted only of bed rest. Pain was subsiding by the time of discharge. He was discharged to rest at home for two weeks, following which rehospitalization for parietal pericardiectomy was to be arranged.

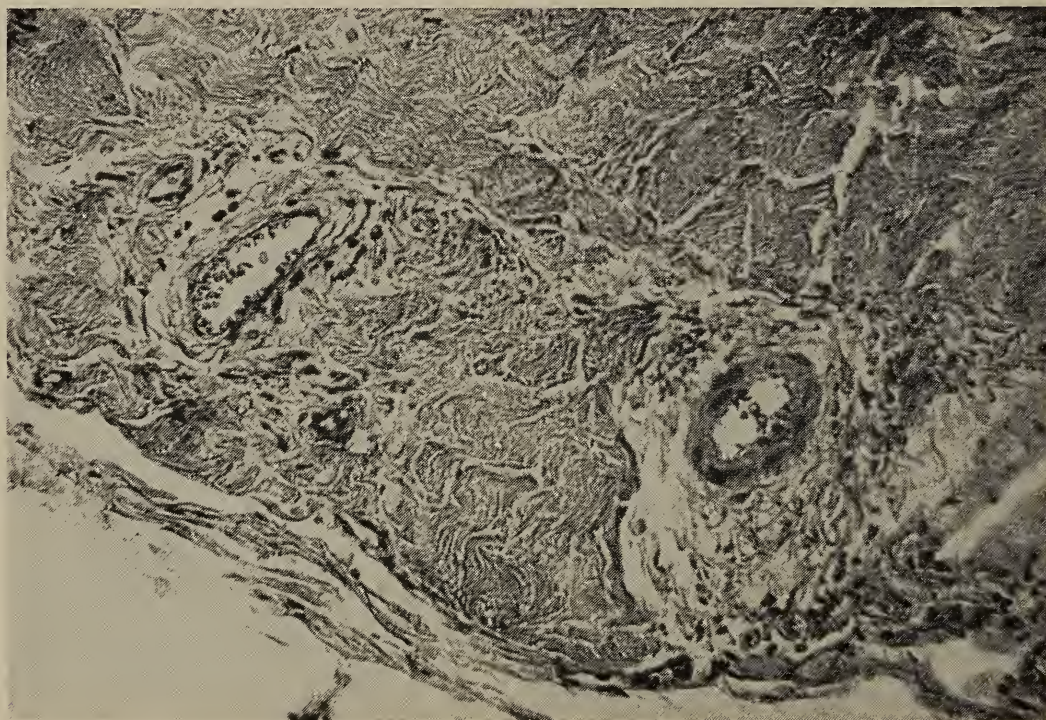


Fig. 2. Photomicrograph of excised pericardium showing collagen fibers and blood vessels with perivascular round cell infiltration.

during the third week without measurable effect on the clinical picture. The pericardial friction rub persisted. During the fourth week of hospitalization pain began to subside; the friction rub was no longer audible. Chest x-ray showed return of heart size to normal and absorption of the left pleural

His fifth hospitalization was from October 25, 1961, to November 10, 1961. On October 26, 1961, through a bilateral trans-thoracotomy, a parietal pericardiectomy was performed. The operative note stated, "The pericardium was opened and it was seen that the pericardium was thick-

ened and there were dry fibrinous adhesions throughout the pericardial cavity. Actually, no true pericardial cavity existed, but no fluid was present. These dry fibrinous adhesions were mainly divided with finger dissection but in some areas they were denser and had to be separated by knife or scissor sharp dissection. The entire pericardium was removed. The removal was carried up over the superior vena cava and well down onto the inferior vena cava and on across the diaphragmatic surface and well back up into the transverse surface and on across the left side and out onto the aorta and pulmonary artery. The removal of the pericardium resulted in some bulging of the heart which seemed to show evidence of mild cardiac constriction. The heart was flabby and the visceral pericardium was whitish and thickened but not constricted." The pathology report on the excised tissue stated, "The sections show numerous pieces of a sheet of dense, well-vascularized fibrous tissue in which the architectural features are orderly. Accumulations of chronic inflammatory cells are occasionally noted, but are not prominent. The accumulations are predominantly in the perivascular regions and consist of lymphocytes, plasma cells, and occasional eosinophilic leucocytes. Portions of the surface of the fibrous sheets are covered by loose, well-vascularized granulation tissue accumulations in which inflammatory cells of the types mentioned are occasionally seen. Diagnosis: Portion of pericardium showing non-specific chronic inflammatory changes and granulation tissue formation." (Figure 2) The post-operative period was complicated by bilateral lower lobes atelectasis, requiring tracheal lavage, bronchodilators, broad spectrum antibiotic therapy, and vigorous efforts to induce cough and deep breathing.

In the twenty-two months since surgery, he has had no recurrences of pericardial pain. He has had several episodes of respiratory infection not succeeded by disability or chest pain.

Comment

The laboratory data is summarized in Table 1. Noteworthy are the slight neutrophilic leucocytosis, elevated sedimentation rate, three plus c-reactive protein. The serum glutamic oxaloacetic transaminase determinations were always in the normal range. The normal globulin and negative lupus preparation were evidence against systemic lupus erythematosus. The negative first and second strength PPD skin tests were findings against a tuberculous etiology.

In assessing his incapacity for work we note that he lost one month from employment in 1958; in 1961 he lost three months from employment prior to his hospitalization for surgery. His course was not a smouldering one with almost continuous disability and indeed the recurrence prior to his surgery was a mild one. However, his third hospitalization for a recurrence was his most symptomatic illness. Its course was not altered by drug therapy. The prospect of a future such morbid recurrence was psychologically disruptive. He accepted the risks and complications of surgery rather than trusting to the ill-defined natural evolution of his disease. His postoperative morbidity attest to the formidable risks of this major thoracic surgery.

A respiratory infection preceded each episode of pericarditis. The succeeding episode of pericarditis was manifested by pericardial pain, slight fever, malaise, electrocardiographic S-T elevations and succeeding T-wave inversions; the third hospitalization was accompanied by left sided pleuritis.

Over the twenty-two months of follow-up, he has been free of recurrences.

Discussion

Idiopathic benign pericarditis manifests itself as a systemic illness with septic fever, malaise, lassitude, leucocytosis, elevated sedimentation rate.² Distinctive pericardial pain, a pericardial friction rub, electrocardiographic S-T and T-wave changes, x-ray demonstrable pericardial effusion, all indicate the

disease site. Pleuritis, usually left-sided and manifested by pleural friction rub and radiologically demonstrated pleural effusion, frequently coexists.³ Pulmonary infiltrations are less frequently seen.³ Thorough diagnostic evaluation excludes specific etiologies. The clinical course is not always "benign". Myocarditis,⁴ progression to symptomatic constrictive pericarditis,^{5,6,7} a smouldering and prolonged illness, frequent and morbid recurrences,^{1,2,8} even death⁹ may evolve in the natural evolution of this disease. Recurrences are a characteristic feature of this illness.^{9,10,11,12} Such recurrences vary in number and severity. Our case, as those described by Zinsser et al.,² is distinguished by the morbidity of such recurrent episodes. The later recurrences in our patient were more severe than his initial illness; symptoms were not ameliorated by narcotics, corticosteroids, antibiotics, ataractics, salicylates. He, in addition, lost much time from gainful employment and exhibited a profound emotional reaction to his illness and the prospect of future reoccurrences. Admittedly, fragmentary data exists for separating these cases with such prolonged morbidity and incapacitating disability into the nosological entity designated idiopathic recurrent pericarditis. In addition to the frequency and morbidity of recurrences, a second distinguishing feature is the apparent "cure" inherent in parietal pericardiectomy.^{1,2,8} Perhaps a third facet of the disease is the microscopic pathology of the excised parietal pericardium. Fibrosis and perivascular lymphocyte, monocyte, eosinophile infiltration was present in our case and those described by Blakemore.² A fourth, quite speculative suggestion is that of autoimmunity as the etiology of this disease, the same autoimmune pathogenesis which some impugn in postmyocardial infarction, postcardiotomy, and post-traumatic postpericardiotomy syndromes.^{3,13,14,15,16,17,18,19} No one has demonstrated auto antibodies to pericardium or myocardium in this disease. The frequent antecedent occurrence of a viral respiratory infection and succeeding lag period before

appearance of the pericarditis is noteworthy. The excised pericardial perivascular lymphocytes and plasma cells with their inherent antibody synthesizing potential is also suggestive. Antecedent history is the only finding which distinguishes the clinical picture of idiopathic recurrent pericarditis, postmyocardial infarction syndrome, and post-traumatic postpericardiotomy syndrome. Heart specific autoantibodies have been demonstrated in the sera of patients with postmyocardial infarction syndrome and postcardiotomy syndrome.^{13,15} Antibodies to heart muscle antigen have been produced in animals and have induced cardiac lesions in these animals.¹⁴ Cross reactive antigen of group A streptococci react with a constituent of myofiber and smooth muscle to induce rheumatic carditis.^{20,21} Thus the evidence for an autoimmune pathogenesis of idiopathic recurrent pericarditis is suggestive but slight.

Summary

A case of idiopathic benign pericarditis with frequent morbid, drug unresponsive, psychologically disruptive recurrences is described. This patient has remained free of recurrences for twenty-two months following parietal pericardiectomy. The excised pericardium showed fibrosis and perivascular lymphocyte, plasma cell, eosinophile infiltration. The formidable nature of such surgery and succeeding immediate postoperative morbidity is detailed. The designation of idiopathic recurrent pericarditis as a nosological entity is suggested on the basis of frequency and morbidity of recurrences, apparent "cure" inherent in parietal pericardiectomy, a distinctive microscopic pathology of the excised pericardium, and the suggestion of a unitary autoimmune pathogenesis with postmyocardial infarction, postcardiotomy, and post-traumatic postpericardiotomy syndromes.

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Products of Research That Save Lives

Let the law deal harshly with any dishonesty, false claims, or unsafe practices found in the drug industry, but let us not encourage unlimited power by the FDA which could destroy the tree laden with the fruit of honest research because of one ailing branch. We would suggest . . . a resolution of confidence in the pharmaceutical industry whose products have saved the lives of so many children. It is easy to forget that the life of President Lincoln's son could probably have been saved by antibiotics.

—Robert F. Lorenzen, M.D., in *Arizona Medicine*, 21: 469 (June) 1964.

Some Essential Elements of Good Medical Care

WILLIAM D. LEWIS, M.D.
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It is the obligation of the physician to see that his patients and his community have the best in medical care. The author has some ideas on how this may be achieved.

IN SPITE of his remarkable and almost miraculous conquest of disease, the contemporary physician is often criticized as having become too impersonal and lost something of the "art" of medicine. Perhaps, then, it is relevant for each of us to ponder just what constitutes good medical care. The remainder of this article represents some thoughts on the subject garnered in approximately twenty years of medical practice.

The title has been chosen deliberately. Purposely, the term "some" has been chosen, since a single individual cannot be all knowing and wise with reference to such a vast subject. The term "essential" has been used to designate those things which are felt to be basic and indispensable. The term "care" has been used in the sense of liking or having affection for those to whom one is responsible. Though many of the statements which follow are self-evident, they are pertinent, and we may, by reminding ourselves of them, be able to offer our patients better care in the rather demanding day to day practice of medicine.

The first essential of good care is that it must be available to the public. When a patient gets sick the finest doctor, hospital, nursing care, or diagnostic equipment is of no value to him unless it is available. It is almost understandable that fatigued physicians in a period of having too much to do

and too little time to do it may think to themselves that night calls and week-end calls must go. However, for good medical service to be present in a community, the practicing physicians must see that the services of doctors in all the various specialties of medicine are available to the public at all hours.

A second essential to be discussed is that the medical service rendered must be of excellent quality. Excellence of care cannot be given on an assembly line basis. Though we would agree that some routine is mandatory in maintaining a medical practice, we feel it can become so stereotyped that carelessness and thoughtlessness can creep in, much to the detriment of the patient. We would suggest that the routine can apply to the common characteristics of humans as such, but that specific thoughts and attention must be given to those characteristics which make humans different, or individuals. In elderly people one may easily miss cases of hyperthyroidism or myasthenia gravis unless one thinks of his patients individually and not as a routine case. We would also suggest that high quality service cannot be given without keeping up with the scientific progress in the various fields of medicine, without studying year after year, and without reviewing from time to time the results of his own methods and procedures. The physician who is too busy, or routinely neglects to take postgraduate training, or to keep up with his medical journals, cannot, after a period of five years, continue to give medical care which is excellent.

The third factor essential of good care is more difficult to define but can perhaps be best described as medical care which maintains rapport between physician and patient. If one defines rapport as "a harmonious relationship", then it is obvious that the

physician must have understanding for his patient's feelings and perceptiveness of his needs. He must remind himself that sickness is nearly always a frightening experience. Fear is most uncomfortable and often irrational, which makes it difficult to attend. It varies in degree with the individual affected, his past experiences, his philosophy of life, and with the seriousness of the illness. In most, if not all, illnesses it is not only necessary to overcome the physical disabilities present, but to help the patient overcome his fears.

What, then, are some of the basic fears that sick people have?

These might include:

1. Invalidism and Dependency
2. Pain and Injury
3. Abandonment and Dying

With the present-day orientation toward rehabilitating sick people, invalidism and its by-product, dependency, are less of a problem than they were some years back, especially in younger people. The fear of invalidism and dependency in older people, however, is more marked, not only because it is more likely to occur, but, because it is more difficult to overcome. This is due in part to the fact that older people have less physical resources, poorer motivation, and a soil more conducive to the growth of pessimism. All of these contribute to a slower recovery. The perceptive physician will be aware of this and will encourage the patient to have patience. As an antidote for pessimism, he will find it helpful to impart to his patient a reasonable sense of optimism. This is not to suggest that one should be optimistic to the point of absurdity, or of directly lying to the patient, but to suggest that since almost every cloud has some silver lining, one can discuss the silver lining as well as the cloud.

Pain and Injury: Many of the tests and treatments given to patients are painful and carry risks. It is true that some people are much more tolerant of pain than others, and some procedures less dangerous than others,

but it behooves us all to become as proficient as possible with the procedures we inflict on patients and to learn to do this with due regard for the pain produced and risks involved. Perhaps it is well to always ask ourselves before carrying out a procedure whether we are doing something "to" the patient or "for" the patient.

Abandonment and Dying: It is an accepted fact that death is inevitable; its approach engenders fear in most people. This fear can be allayed by the warmth and support of one's friends, family, and physician. Since death so often occurs in a medical setting, it is important that the physician, in pursuing the technical side of medicine, not lose sight of this. Unfortunately, if care is not taken to avoid it, the patient rather than having support in his final hours may be medically abandoned. Too often he is brought to the hospital, receives constant attention from the laboratory, x-ray department, the dietitian, the nursing staff as well as the medical staff, until a diagnosis is established. If the prognosis is poor and definitive treatment not available, the patient is not only no longer the center of attention, but may be almost neglected. Good rapport would require that the physician see the patient on schedule, take time and sit down and discuss his problems and fears, including death, and, perhaps, get some member of the clergy to help fill in the voids left by the no longer needed ancillary medical services.

The fourth essential of medical care we would like to discuss is the effort with which the care is given. This is a little bit redundant because excellence of service and making care available require effort. Here, however, we wish to discuss the effort from the viewpoint of its application to the individual patient. Usually the harder a medical team tries to help a patient, the more successful they will be. The goal line stand in medicine applies and is sometimes as successful as it is in football. This is not to imply that one should make an all-out effort to revive completely miserable people where

death is merciful. However, when one deals with sicknesses day in and day out, he may become too philosophical about a desperately ill patient's chance to recover, and reduce his efforts prematurely. Those who have practiced medicine over a span of years have all seen the unexpected occur. They have seen unconscious people who lay in the hospital three and four weeks, finally get up and walk home; people with terrible gunshot wounds and no right to live, return to their rightful place in society; and heart attacks literally brought back from the dead. These experiences must always remind us that we must be very careful before assigning the term "hopeless" to a patient. We must be sure that it is the patient's problem which is hopeless, and not the physician himself who is without hope, before giving up. The desperately ill patient, who does not have

an incurable illness, deserves a most determined effort; if given this his attending physician will often be surprisingly rewarded.

In summary, we have suggested that for good medical care to be available in a community, the physicians must see that certain fundamental qualities exist. These essentials would include a willingness to give high quality medical care and to have it available for sick people at all times; that the care must be given with feeling and understanding of patients as human beings; that the care must be given with whatever amount of effort is required to get the patient well. With this as a guide we will offer our communities better, and hopefully, the best in medical care. This, after all, is our duty as physicians.

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Study of Thymomas

The cooperation of physicians is requested in a study of serums from patients with thymomas, being conducted at the Clinical Center by the National Cancer Institute.

Serums from patients with both thymomas and myasthenia gravis reveal the presence of cross-reacting autoantibodies directed against thymic epithelial cells and skeletal muscle. Such reactivities are absent in the serum of normal individuals and individuals with a wide variety of diseases.

However, the Institute's present shortage of serums from patients with thymomas who do *not* have myasthenia gravis is delaying attempts to elucidate the possible pathogenetic relationships between autoimmunity and the myasthenia gravis-thymoma syndrome in particular, and thymic pathology and immunologic abnormalities in general.

Assistance is asked in obtaining small serum samples from (1) patients with present evidence of anterior mediastinal tumors suggesting thymomas, *with or without* associated myasthenia gravis, aplastic anemia,

etc., and (2) those with histories of resected thymomas.

A single 10-30 ml. bleeding from each patient is all that would be required. Containers and postage for the serum samples will be provided by the Institute on request. Serum samples not clotted blood specimens should be sent to the National Institutes of Health. A report of findings will subsequently be sent to the physician.

There are no present plans to admit patients with the above described conditions to the National Cancer Institute. This does not, however, preclude such a future possibility, or an interest by investigators in other Institutes.

Physicians who are interested in assisting with this study may phone collect or write: Arthur J. L. Strauss, M.D., Clinical Center, Room 12-N-258, National Institutes of Health, Bethesda, Maryland 20014. Telephone: 656-4000, Ext. 66381 (Area Code 301).

MACK I. SHANHOLTZ, M.D.

State Health Commissioner of Virginia

Medical Self-Help in Virginia

The State Department of Health has the responsibility for Civil Defense Medical Services for the State of Virginia, and thus the responsibility for the Medical Self-Help Training Program in the State.

Medical Self-Help is a program designed to provide information and training to the people of the United States that will help prepare them for survival in time of a national disaster when the services of a physician or other allied health personnel are not available.

The program was developed by the U. S. Public Health Services under contract with the Office of Civil Defense Mobilization. The Committee on Disaster Medical Care of the Council on National Security, American Medical Association, assisted and advised in its development. In Virginia there is a Medical Self-Help Committee consisting of the State Health Officer, or his representative, the State Civil Defense Director, the State Chief School Officer, and a representative from the State Medical Society.

The program has been in operation since 1962. The national goal is to train at least one member of each family in the United States. In Virginia, 18,333 people have been trained to date and more than thirty classes are now in progress. As of September 1964, Virginia ranked sixth in the nation on a population ratio basis in the number of persons trained.

Anyone capable of learning a few fundamental techniques can be taught Medical Self-Help. The course consists of 16 hours of instruction in the following subjects:

Healthful living in emergencies under insanitary and crowded conditions and when a public water supply and sewerage system may be nonexistent. Instruction is directed

particularly toward predisaster planning and postdisaster improvisation. Specific problems of both urban and rural areas are recognized and principles which may be applied by individuals under various environmental conditions are outlined.

Training in *artificial respiration*. Both mouth-to-mouth resuscitation and back pressure arm-lift method, is given.

The recognition and treatment of arterial, venous and capillary bleeding. Methods of stopping bleeding and applying dressings and bandages for different kinds of wounds are stressed with emphasis placed on improvisation using supplies generally found in the home.

The recognition and treatment of shock. Its seriousness and methods of preventing its occurrence are covered.

Information on *the care and treatment of burns* under austere conditions. Emphasis is placed on the prevention of infection and understanding the different kinds of burns and how they may occur and be prevented.

Information is provided on *the general care of patients and long-term care of injuries* after emergency treatment. No attempt is made to teach diagnosis; instead, treatment of symptoms is emphasized. No medications are recommended other than simple, commonly available medicines. Advanced consultation with family physicians on the selection, quantities, use and storage of medications is recommended.

Training is given on the recognition of *fractures, dislocations and sprains* and how to treat them with improvised splints. Ways of caring for possible complications are also covered. Attention is given to follow-up care since professional help may be unavailable for days or weeks.

Improvised *methods of moving sick and*

injured persons are taught, plus the precautionary methods for preventing further injuries. An attempt is made to develop in the students an understanding of principles involved in transportation of the injured.

Improvised, but effective methods of *in-*

Program which go beyond the standard first aid course. This will require an additional six hours of instruction. Persons completing both courses receive the Red Cross Standard First Aid Certificate and the Medical Self-Help Certificate.

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DiSASTER
STRIKES AND THERE IS NO DOCTOR-YOU'LL NEED

MEDICAL SELF-HELP TRAINING

A DISASTER ON AN ISOLATED BEACH! WOULD YOU KNOW HOW TO PROVIDE ARTIFICIAL RESPIRATION?

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fant and child care in a disaster situation are covered. Emphasis is placed on the added difficulty of this task resulting from confinement and the lack of usual conveniences normally available. Also, the fundamental techniques to be followed in assisting a normal delivery are covered.

A simplified presentation of the rather complicated and technical subject of *nuclear radiation* is made. It deals with such problems as blast and radiation, emphasizing protection against radioactive fallout. It outlines simple protective procedures that can be carried out at home and in community shelters.

At the course's conclusion an examination is given, and those who pass the examination receive a Medical Self-Help certificate. The American National Red Cross in the conduct of their standard first aid course, has agreed to ask their instructors to teach those lessons of the Medical Self-Help Training

Each local health department has the equipment needed to teach Medical Self-Help, including filmstrip, projector, screen, text books and certificates. All additional student supplies required may be obtained through the State Department of Health. Individuals interested in the Medical Self-Help course of training should contact their local health director.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE

	DISEASE CONTROL		Jan.-	Jan.-
	Nov.	Nov.	Nov.	Nov.
	1964	1963	1964	1963
Brucellosis -----	1	2	18	11
Diphtheria -----	0	0	0	0
Hepatitis -----	39	47	517	770
Measles -----	146	194	13347	8357
Meningococcal Infections --	5	4	58	82
Meningitis (Aseptic) -----	3	2	21	29
Poliomyelitis -----	0	4	0	22
Rabies (in animals) -----	22	23	303	211
Rocky Mt. Spotted Fever ---	0	1	34	37
Streptococcal Infections ---	865	962	9744	8668
Tularemia -----	1	0	7	7
Typhoid Fever -----	0	1	12	9

HIRAM W. DAVIS, M.D.

Voluntary Admissions to State Mental Hospitals and Changes in Other Admission Procedures

For a number of years it has been possible for patients to enter our State Mental Hospitals voluntarily but this type of admission seldom occurred because of technicalities in the law and because of Departmental policy.

In order for a patient to voluntarily enter our hospitals prior to last July, he had to pay the full reimbursement cost in advance or, if indigent, the cost of reimbursement had to be waived by the authority of the State Hospital Board. This Board meets once a month. In practice, a person who needs to go to a hospital usually needs to go immediately. Therefore, a period of a month for a Board "waiver" caused patients and relatives to seek other forms of admission usually by commitment.

Since July 1, 1964, it has been possible for the Superintendent of any State Hospital to receive and detain as a patient any suitable person who is a legal resident of the State and who is in the early stages of mental illness and desirous of submitting himself to treatment. The prospective patient must voluntarily make written application or be able to understand the application if another party makes it for him. Advance payment is no longer required. After the patient is admitted to the Hospital, a determination is made of the patient's financial resources and reimbursement is claimed in accordance with his income if he is able to pay.

There has already been a tremendous increase in the use of voluntary commitments. From July 1 through October, 192 voluntary admissions were received whereas in the whole previous year, from July 1, 1962, to

June 30, 1963, only 41 such admissions occurred.

The application forms necessary for such admission are in the hands of the Hospital Superintendents. Only they can decide if the patient is in the early stages of mental illness and whether he is competent to make the application. The courts are not involved in the procedure whatsoever. There are no public records made. Now at last a patient can enter a State Mental Hospital for treatment for mental illness with approximately the same amount of "red tape" as he would encounter in entering any general medical or surgical hospital for any other illness.

Several other changes were also brought about by revisions in the legal code at the last General Assembly and became effective on the 1st of July.

Temporary Admission and Detention by Petition and Certificate—Time Extended

The Superintendent of any State Hospital or Training School or the official in charge of any private institution may without an order of judge or justice receive into his custody and detain temporarily in the hospital, training school or private institution any person who is certified to be mentally ill by two licensed physicians, neither of whom is in any manner related to or connected by marriage with the patient or has any interest in his estate. Admission is based upon a written petition to the Superintendent of the Hospital or Institution made by some responsible person or persons.

The certificate executed by such physicians shall contain adequate reasons why the alleged mentally ill or mentally deficient person should be received in the State Hospital, Training School or private institution. The examining physicians shall furthermore answer as far as practicable from their per-

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sonal knowledge or from information furnished by competent persons the interrogatories prescribed by law for the "General Commitment" of mentally ill persons (to be described later). Forms for this type of admission can be obtained from the Clerks of Courts of Record or by writing to the office of the Commissioner.

Although this law also has been in effect for a number of years, the detention has heretofore been limited to 45 days. As of July 1, 1964, the detention period has been extended to 90 days.

The advantage of this informal "medical" arrangement for admission and detention is that this type of admission frequently does away completely with the necessity for a legal form of commitment. With the use of shock therapies and some of the more modern drugs used in treating mental illness, it is frequently possible for a patient's hospitalization to be completed within a 90-day period. Thus by extending the time, it is frequently possible to avoid the more elaborate legal procedures which are required for a general commitment. However, if at the end of 90 days the patient is not well enough to leave the hospital and needs to be involuntarily restrained in order to complete his treatment, it will be necessary for the individual to be committed under the procedures described later under "General Commitment".

Commitment for Observation Also Extended

The law provides for Commitment for Observation on the medical certificate of one physician and a judge. The purpose of this type of commitment is to simplify the commitment procedure when there is some question as to the actual mental condition of the patient and where it is desirable to have the advantage of observation in a controlled environment before the final decision and a judication is made. In the past such a person also could only be detained in the hospital involuntarily for a period of

45 days, at which time a report had to be made to the judge or justice who acted first in the case.

If the patient was found to be mentally ill or in need of further hospital treatment but was unwilling or unsuitable to remain as a voluntary patient, a general commitment was ordered. If, on the other hand, the patient was found not to be mentally ill, he would be discharged as soon as this determination was made, not necessarily keeping the patient for the full 45 days. This type of admission may now be held for 90 days.

Forms for Observation Commitment may be obtained from Clerks of Courts of Record.

General Commitment—No Change

General Commitment remains the same. The present law requires that a petition be filled out by a respectable citizen and, wherever possible, signed by a relative; a medical certificate filled out by two physicians, and a warrant issued. The physicians make their examination in the presence of the judge (when this is practical) and the judge may or may not accept the certificate of these two physicians as a basis for issuing an order of commitment. The patient must be represented by counsel, his own or one appointed by the court. The order of commitment, when signed by the judge or justice, authorizes the Superintendent of a State Mental Hospital, Training School or licensed private hospital to receive a patient immediately for care and treatment and to detain the patient so long as such care and treatment is necessary. There are separate forms to be filled out for the mentally ill, mentally deficient, drug addict and inebriate, but the process is essentially the same for each. Appropriate forms may be obtained from Clerks of Courts of Record.

It must be emphasized in conclusion that drug addicts and inebriates are not eligible for the Voluntary Commitment, Admission on Certificate, nor for Commitment for Observation described earlier.

Polycythemia

Polycythemia refers to an absolute or relative increase above normal in the number of circulating erythrocytes and may be either primary or secondary in nature.

Primary polycythemia (Erythemia, Polycythemia Vera) was originally described by Vaquez in 1892. Osler eleven years later delineated it as a specific disease. Increased myeloid activity as another abnormality of the entity was added later by Blumenthal. The basic disturbance in this disease appears as a panmyelosis manifested chiefly at its onset by polycythemia and hematological changes occurring during the course of the disease are determined by the tempo, intensity and direction of the stimulus to the various cellular constituents of the marrow.

Polycythemia vera, a disease of unknown etiology found predominately in males of middle age, can be arbitrarily divided into the polycythemic and anemic phases depending on the red cell volume.

Symptoms involving most organ systems invariably occur and are referable to the increased red cell mass, its concomitant increased viscosity, and a thrombocytosis. The triad of the entity—plethora reflected in skin and mucous membranes, splenomegaly and erythrocytosis, as originally described by Osler, is characteristic of the polycythemic phase. Changes in the peripheral blood reflect the panmyelosis in the bone marrow. Erythrocytosis, polychromatophilia and occasional nucleated red cells accompanied by a granulocytic leukocytosis with a “shift to the left” and a thrombocytosis are found in about two-thirds of the cases. Assuming a satisfactory specimen is obtained, the marrow shows a definite increase in megakaryocytes and red cell precursors with a reduction in the myeloid: erythroid ratio. The polycythemic phase may last for years and great variations may be observed in the white cells and platelets.

Regardless of therapy, the disease reasserts itself for many years but ultimately the polycythemia diminishes. A period when normal red cell values are obtained may follow. This period may be considered the beginning of the “spent” phase and may last a considerable length of time before the anemic phase appears. During this stage immature white cells appear and often the picture becomes indistinguishable from that seen in an individual with acute myeloblastic leukemia. The picture, many times, remains more leukemoid than leukemic, the patient requiring more and more transfusions at shorter intervals with the developments of a hemolytic component. Characteristics of the metaplastic blood formation are noted particularly in the red cells with polychromatophilia, marked poikilocytosis and anisocytosis, microcytosis, elliptical cells, “tear drop” cells and other bizarre forms. Simultaneously, the marrow shows a marked reduction in the erythropoietic elements and an increase in megakaryocytes and non-hematic derivatives of the primitive mesenchymal cell. The spleen enlarges and becomes an active important site of extramedullary blood formation. Eventually the marrow cavity becomes almost completely fibrotic, marrow aspiration produces a “dry tap” and the peripheral blood shows pancytopenia.

Complications are, in most instances, related to the hypervolemia. As a consequence of this, vascular thromboses, as well as hemorrhages, are of frequent occurrence. These may involve any organ or system, thus presenting a variegated clinical picture. The hemorrhage is not due to abnormalities in plasma factors. Uricemia is present in about a third of the cases.

In the fully developed phase of polycythemia vera the diagnosis is made with little difficulty. The symptoms, combined with the ruddy cyanosis and enlarged spleen, suggest the diagnosis which is confirmed by an

hematological examination. Adequate studies should be performed in order to rule out the cardiac or pulmonary etiology of polycythemia. The arterial oxygen saturation is probably the only test capable of differentiating between primary and secondary polycythemia. A low oxygen saturation excludes the diagnosis of polycythemia vera. There are many instances in which the diagnosis is very difficult, for instance in polycythemic patients who turn out to have cerebral tumors, uterine leiomyomas or hypernephromas.

The treatment of polycythemia during the polycythemic phase, in order of preference, is the use of radioactive P_{32} , total body radiation, venesection or cytotoxic drugs. In the "spent" phase transfusions are not required unless there is an anemia. If there is hemolysis or marrow failure, steroid drugs may be of benefit. When thromboses occur, anticoagulants have been used but with little success.

Secondary polycythemia of a relative nature is associated with an excessive loss of body fluid as in hyperemesis, protracted diarrhea or excessive sweating. In adrenal insufficiency as well as shock of various causes a pseudopolycythemia may result. In all of these cases the total blood volume is decreased as a result of plasma depletion.

Stress pseudopolycythemia may occur *de novo* with no apparent responsible specific etiologic factor. Erythrogenesis is normal and there is no leukocytosis nor thrombocytosis. An awareness of such an entity is important since no specific treatment is necessary.

Hypoxia is by far the most common cause of an absolute secondary polycythemia. This

variety is seen to occur with cardiac and pulmonary diseases. The arterial O_2 saturation is invariably low in contrast to the low normal or normal values of polycythemia vera.

Treatment must be directed towards correcting the underlying pathology, thus increasing the available O_2 supply to the tissues. Some cases of polycythemia have been reported in which there is neither cardiac nor pulmonary disease; for example secondary to obesity where there is alveolar hypoventilation or in people living at high altitudes.

Several mechanisms causing increased erythropoiesis have been studied. There appears to be a hormonal substance originating in the anterior hypophysis as the only endocrine substance bearing a stimulating effect on bone marrow erythropoiesis. Although there is no positive evidence, the possibility exists of a red cell regulatory center in the brain located in the hypothalamic hypophyseal area.

The ability of cobalt to stimulate red cell production and produce polycythemia in man and animals has been established. Its mechanism of action is still unknown. It appears to act, however, in a similar manner to the anoxic stimulus.

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1959.

MARIO GUAJARDO, M.D.

Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia

Woman's Auxiliary . . .

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Annual Meeting

The forty-second annual convention of the Woman's Auxiliary to The Medical Society of Virginia was called to order by the President, Mrs. James M. Moss on October 13, 1964 at the Golden Triangle Hotel in Norfolk. The invocation was given by the Chaplain, Mrs. F. Clyde Bedsaul, followed by the Pledge of Loyalty. Introduced by Mrs. Moss, Dr. Richard Palmer, President, The Medical Society of Virginia, addressed the group. The welcome address from the hostess auxiliary was given by the President, Mrs. Daniel N. Anderson. Responding to Mrs. Anderson was Mrs. Richard E. Palmer. The roll of officers, committee chairmen, directors, and county auxiliary presidents and presidents-elect was called by the Secretary, Mrs. Canter. Annual Reports were distributed, and a motion was made and passed to accept these reports. Convention announcements were made by Mrs. William Gibbs. Mrs. Moss presented to the group Mrs. William H. Evans, President, Woman's Auxilliary to the American Medical Association, who spoke briefly. The minutes of the forty-first convention held in Roanoke in 1963 were read by the secretary and accepted as read. In her report, Mrs. R. L. Norment, Treasurer, stated that the balance to date is \$4,801.24.

Mrs. Walter Porter, Finance Chairman,

presented the proposed budget for 1964-65 and made a motion for its adoption. Duly seconded, it was passed. The Finance Committee recommended that the sum of—and not to exceed—one thousand dollars (\$1000) be given to competitive merit scholarship awards, divided equally between the University of Virginia and the Medical College of Virginia. Made in the form of a motion, it was seconded and passed by the group.

Upon motion by the Secretary, duly seconded, the following recommendations from the Pre-Convention Board meeting were adopted:

1. A sum not to exceed three hundred dollars (\$300) be used for the printing of Handbooks and By-laws.
2. The interest on savings, which has amounted to the sum of \$164.58 be given to AMA-ERF.
3. Individual members may purchase copies of the Handbook at the cost of seventy-five cents per copy.
4. For exceptional service to the Auxiliary, Mrs. Lee S. Liggan be given Honorary Life Membership.
5. A dues increase from one to two dollars to become effective in 1965-66 and which would include for each member a subscription to THE BULLETIN.

In answer to a question concerning the use of the Auxiliary page in the Virginia Medical Monthly, Mrs. Moss stated that there had been little or no interest shown by the county auxiliaries in the page. She urged the reporting of items of interest.

Mrs. Malcolm Harris, AMA-ERF Chairman, reported that of Auxiliary money in 1963-64 seven thousand dollars (\$7,000) had been given to the Medical College of Virginia and ten thousand dollars (\$10,000) to the University of Virginia. She presented

honor certificates from AMA-ERF to the Norfolk Auxiliary for the largest contribution of \$386.75; to Norfolk also for the greatest increase in contribution; and to Mid-Tidewater for the greatest per capita contribution of \$5.41. The total AMA-ERF contribution for Virginia in 1963-64 was \$2,117.71.

Mrs. M. R. Schlanger, Portsmouth Auxiliary, gave an interesting report as a delegate to the A. M. A. convention in San Francisco in June 1964.

Mrs. Moss appointed as the auditing committee Mrs. F. Preston Titus, Mrs. Allen Hall, and Mrs. Roy Gillinson. To the reading committee she appointed Mrs. Thomas Hunnicutt, Jr., Mrs. R. L. Norment, and Mrs. George Kelly. It was announced that Mrs. Moss has been named representative to the VaMPAC Committee by Dr. Thomas Edwards, Chairman.

Mrs. Mallory Andrews, Credentials Chairman, reported that there were 80 registered delegates, 53 members, and 8 alternates, 12 members-at-large, 10 distinguished guests, for a total registration of 163.

Mrs. A. B. Gravatt, Chairman, presented the report of the Nomination Committee:

President, Mrs. W. Nash Thompson
President-elect, Mrs. George W. Kelly
1st Vice-President, Mrs. C. Sherrill Armentrout
2nd Vice-President, Mrs. T. E. Smith
3rd Vice-President, Mrs. F. Preston Titus
Recording Secretary, Mrs. William J. Reardon
Treasurer, Mrs. Robert Mitchell
Corresponding Secretary, Mrs. Drake Pritchett
Directors, Mrs. James M. Moss, Mrs. A. Broadus Gravatt, Jr., Mrs. F. Clyde Bedsaul.

There were no nominations from the floor, and the slate was unanimously elected.

Mrs. Byron Eberly, Historian, announced the scrapbook awards. Second place went to Fairfax County Auxiliary, and first place award was presented to Portsmouth Auxiliary.

Mrs. John Rosenthal of Norfolk read the Courtesy Resolutions. There was a motion to accept the resolutions, which was seconded and passed.

Mrs. F. Clyde Bedsaul conducted an inspiring memorial service for the sixteen deceased members of the past year.

The meeting was declared adjourned.

INAUGURAL LUNCHEON

The Inaugural Luncheon was held on October 13 in the Golden Key Club at 12:30 with Mrs. James Moss presiding. After the invocation by Mrs. F. C. Bedsaul, Mrs. Moss introduced guests at the head table. The luncheon address was given by Dr. Arthur L. Miller, Congressman from Nebraska for sixteen years, whose subject was "Woman's Place in Politics and Medicine." Following this interesting talk, past State Auxiliary Presidents, 1963-64 officers and chairmen were introduced. The incoming officers were introduced and duly installed by Mrs. William H. Evans, President, Woman's Auxiliary to the AMA. Mrs. Moss then presented to Mrs. Nash Thompson the President's pin and gavel, after which Mrs. A. B. Gravatt, Jr., presented to Mrs. Moss the Past President's Pin. The new president, Mrs. Thompson, then made her inaugural remarks. Convention acknowledgments were made by Mrs. John Rosenthal, and Mrs. Donovan Ward, wife of the President of the American Medical Association, was introduced.

A fashion show by Berson's of Norfolk was presented.

ELEANOR F. CANTER
Recording Secretary

Editorial

Please Return the Questionnaire

ATENTION is directed to a questionnaire in this issue (See page 47) of the Virginia Medical Monthly. Every member of The Medical Society of Virginia is urged to complete this sheet and return it to headquarters at 4205 Dover Road, Richmond, Virginia, as soon as possible.

A prompt reply to this readership study will be of great value to the journal and The Medical Society of Virginia. Several questions are designed to give the readers an opportunity to express preferences and offer suggestions that will make this journal a more useful and readable publication. The Editorial Board will welcome the answers to these questions for it is easy to become complacent and to forget the primary purpose of a publication of this type is to bring to the members the information they desire.

An equally important purpose of this readership survey is to provide ammunition for the State Medical Journal Advertising Bureau to use in their current campaign to obtain more advertising for the 34 state medical journals they serve. Advertising in these journals has fallen off sharply during the past few years as the result of several factors, none of which operate to the advantage of our state publications. It has been pointed out before in these pages that the large pharmaceutical companies that traditionally provide the major part of state journal advertising were badly shaken by the prolonged investigation they were subjected to by the late Senator Estes Kefauver. As a result of this experience, many drug houses retrenched sharply in their advertising.

A second and perhaps more significant change occurred about the same time. Many weekly and monthly publications dealing with various aspects of medical practice have appeared in the past decade. These are sent without charge to physicians in active practice throughout the country. It is necessary only to mention Medical World News, Modern Medicine, Medical Science, Medical Economics, Resident Physician and Medical Tribune and Medical News Weekly to realize the vast coverage drug companies may obtain by advertising in a few of these nationwide journals and medical newspapers. It is impossible to discuss this new field of medical journalism without pointing out the unique position MD Magazine has created for itself during its short existence. All of these publications owe their existence to pharmaceutical support.

This means that the state medical journals have to compete with these new rivals for the drug companies' advertising dollar as well as with our old time-tested competitors—the JAMA, the Southern Medical Journal and the ever-increasing number of national specialty publications. Competition is said to sharpen the wits—if such is the case, our State Medical Journal Advertising Bureau's must be honed to a razor edge.

We have been advised that this readership study has been urgently requested by a number of prospective advertisers as well as by some of the companies that have used our state journals for many years. This means if our readers make a good response we stand to gain much needed support. It also means if our state members do not return their questionnaires promptly and in large numbers, we may lose some of our present advertising. Again you are urged to forward this form immediately in order that the Virginia Medical Monthly will be in a stronger position to compete in this highly competitive field. Members should also remember to use our loyal supporters' products whenever the need exists.

H.J.W.

King Edward and King-Anderson

SEVERAL WEEKS AGO the former King Edward VIII, now the Duke of Windsor, was operated upon in Houston, Texas, for repair of an aneurysm of the aorta. In 1953 Anthony Eden, who shortly thereafter became British Prime Minister, was operated upon in Boston for correction of an injury to the bile ducts that occurred during earlier surgery in England. These are not isolated examples of Britons leaving England to seek medical aid in this country but they are the most publicized examples of this new and significant trend.

A few years ago it would have been unthinkable for a former British king or prime minister to leave the confines of England for medical treatment in this or any other country. Traditional English pride, which has increased rather than lessened during the post-war decline of the British Empire, would not have tolerated such an affront to British medicine. A decade ago while a decision was being reached concerning Sir Anthony's first operation in Boston, Prime Minister Winston Churchill offered every inducement to Eden's American surgeon to operate in England rather than in America, in order that British medicine might be spared the added humiliation of this outstanding statesman having to leave his country in order to obtain the best treatment.

What has brought British medicine to this low state? The answer is not hard to find. Distrust of socialized medicine in England by those who should know its limitations best and the fundamental instinct for self-preservation prompted these men to come to America. It is true that each sought the outstanding authority in the world for his particular ailment but it is more than a coincidence that these surgeons were Americans, trained in our traditional system of medicine untrammelled by government control.

Now we are told President Johnson wants to change all this. He has stated that when Congress convenes this January the passage of the King-Anderson bill has first priority. This legislation is the entering wedge of socialized medicine. This is realized all too well by the supporters as well as the opponents of this legislation and explains why it has been the center of such bitter controversy since it was first proposed. If the Democrats who were elected last November support this bill it will unquestionably pass during this session of Congress. If, on the other hand, we can convince our legislators that what has happened to medical progress in Great Britain under government control will also result in this country if the King-Anderson bill is passed, we may still be spared socialization of American medicine. Time is of the essence. This may be the last opportunity for the physicians of this country to tell their story before it is too late.

H. J. WARTHEN, M.D.

News

New Members.

New members received into The Medical Society of Virginia during the month of November are:

George Richard Abbott, M.D., Richmond
William Lake Curry, M.D., Richmond
Frederick Sterling Davis, Jr., M.D.,
Richmond

Milan Diklich, Jr., M.D., Portsmouth
Robert Lee Glenn, M.D., Lynchburg
Edwin James Harvie, Jr., Danville
John Kern Humphries, M.D., Roanoke
Julian Arthur Koplen, M.D., Danville
Carl Patrick Laughlin, M.D., Hampton
Desmond John Longford, M.D.,
Smithfield

Harry Isaac Lurie, M.D., Richmond
Irving Melnick, M.D., Danville
Jess Peck Miller, M.D., Hampton
Raul Eloy Montero, M.D., Pulaski
Eugene Michael Newman, M.D.,
Richmond

John P. O'Brien, M.D., Richmond
Charles A. Schehl, Jr., M.D., McLean
Charles E. Sutton, M.D., Richmond
Deane Harold Vance, M.D., Sedley
Charles Pinckney Winkler, M.D.,
Richmond

Richmond Academy of Medicine.

Dr. Carl Meador has been named president-elect of the Academy. Dr. William R. Hill will assume the office of president in January. Other officers will be Drs. Earnest B. Carpenter and Warren Montague, vice-presidents; Dr. E. Randolph Trice, recording secretary; and Dr. John Catlett, sergeant-at-arms.

Northern Neck Medical Association.

At the annual fall meeting in October, Dr. Lloyd T. Griffith, Mount Holly, was elected president, succeeding Dr. Harvey Goode, Jr., of Kilmarnock. Dr. Powell Wil-

liams, Jr., Reedville, was named president-elect; Dr. T. Brent Wayman, Weems, vice president; and Dr. A. B. Gravatt, Jr., Kilmarnock, secretary-treasurer.

Dr. J. D. Hagood,

Clover, has been elected president pro tempore of the Senate of Virginia. He is the oldest senator in point of service.

Dr. Weir M. Tucker,

Richmond, was elected a member of the Board of Regents of the Southern Psychiatric Association at its annual meeting in Kansas City in October.

Dr. William W. Walton,

Pulaski, has been installed as president of the Pulaski County Chamber of Commerce.

Dr. Henry E. Davis Honored.

Eastern State Hospital in Williamsburg has named its new one million dollar occupational therapy building for "Uncle Henry" Davis. In 1946 he gave up his retirement to become the hospital's third physician and director of services and served at a critical time when the hospital was relocating from Williamsburg to Dunbar. Dr. Davis will be eighty-three next month and is the father of Dr. Hiram Davis, State Commissioner of Mental Hygiene and Hospitals.

Dr. Rawley Martin Shelton, Jr.,

Has located in Louisa where he is in the Louisa Medical Center. He was recently a staff physician at Richmond Memorial Hospital.

Dr. Sam D. Graham,

Staunton, has been elected secretary-treasurer of the Mid-Atlantic Section of the American Urological Association.

Dr. William G. Rickard,

Luray, has accepted a position of assistant medical director with the Paul Revere Life Insurance Company in Worcester, Massachusetts. He will terminate his practice in Luray the last of January.

Dr. T. Stacy Lloyd, Jr.,

Has been named to his second term as president of the Fredericksburg Area Chamber of Commerce.

Anesthesiologist

Desires relocation to small community. Ten years' experience in large city group. Training received at well-known New England clinic. Reply to #35, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

G.P. Partner Wanted

To join two other general practitioners doing rural practice in Southwest Virginia. Hospital privileges in three hospitals and medical directors for new nursing home. An opportunity to do a family practice in a beautiful community with a stable economy and with an income greater than the national average. Write #15, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituaries

Dr. Thomas Whitehead Murrell,

Richmond, died November 26th after a long illness. He was eighty-four years of age and a native of Lynchburg. Dr. Murrell graduated from the former University College of Medicine, Richmond, in 1901 at the age of twenty. He was a pioneer skin specialist and except for post-graduate work in dermatology at the University of London, he was connected with the Medical College

General Practitioner Wanted.

Thirty-seven year old white, well established general practitioner wants young general practitioner as associate in city in Virginia. No obstetrics. Salary the first year during trial period. New, large, modern office. Write #10, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

General Practitioner Wanted.

Family internist by four-man group in growing rural program in West Virginia. Modern clinic facilities, regularly visiting specialist consultant staff, scheduled training and vacation periods, foundation sponsorship, no investment required. Starting net income range \$14,000-\$18,000 depending on qualifications. Inquiries should be sent to #20, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Needed.

General physician—family internist by four-man group in growing rural practice in West Virginia. Modern clinic facilities, regularly visiting specialist consultant staff, scheduled training and vacation periods, foundation sponsorship, no investment required. Starting net income range \$14,000 to \$18,000 depending on qualifications. Write #20, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

of Virginia until his retirement from teaching in 1848. While studying at the College, Dr. Murrell served as a temporary instructor on skin diseases when a death left a faculty vacancy and he became professor of dermatology and syphilology in 1910. He was awarded a doctor of literature degree by the College in 1955. After retirement Dr. Murrell continued his practice until shortly before his death. Two years ago he

toured Europe, North Africa and the Near East as a lecturer.

Dr. Murrell was a past president of the Richmond Academy of Medicine and past chairman of the dermatological section of the Southern Medical Association. He was a member of the American Dermatological Association and had been a member of The Medical Society of Virginia for sixty-two years.

A son, Dr. Murrell, Jr., and a daughter survive him.

Dr. Harry Lewis Baptist,

Retired physician of Albemarle County, died November 28th at the age of eighty-nine. He received his medical degree from the University of Maryland in 1897. Dr. Baptist practiced medicine for more than forty-five years and most of this time he was located at Ivy Depot. He had been a member of The Medical Society of Virginia for sixty-four years.

Four daughters and a son survive him.

Dr. John Richard Hamilton,

Nassawadox, died December 3rd at the age of sixty-four. He was a graduate of the Medical College of Virginia in 1927. Dr. Hamilton began his practice at Nassawadox in 1928 and he was one of the three physicians who set up operation at the Memorial Hospital there. He, Drs. W. Carey Henderson and Don Daniel set up the operating rooms, beds and kitchens at the still unfinished hospital and a week later admitted their first patient. Dr. Hamilton served in the infantry in World War I and was in naval service in World War II, serving in the South Pacific with the rank of commander.

Dr. Hamilton had been a member of The Medical Society of Virginia for thirty-seven years.

His wife and a son survive him.

Dr. Dean Harold Vance,

Sedley, died November 27th. He was seventy-three years of age and received his medical degree from the University of Colorado in 1917. Dr. Vance retired from the

Navy in 1961 after thirty-five years of service. He was a Captain in the Medical Corps, and was one of the earliest naval flight surgeons in the service. Dr. Vance participated in the search for Amelia Earhart in 1937 and was given a presidential citation and commendation by President Truman for his handling of a meningitis epidemic among preflight trainees. He was a member of The Medical Society of Virginia.

His wife and a daughter survive him.

Dr. Moseley.

Edward J. Moseley, Jr., was born in Richmond, December 1, 1873, the son of Dr. Edward J. Moseley of "Malvern", Powhatan County, and Lucy Ann Gwathmey of "Bear Island", Hanover County. After attending public and private grade schools and also Richmond College, he graduated from the University College of Medicine in June 1896. This was the first medical class in this institution which completed a three-year course.

Dr. Moseley then spent a year in Germany doing graduate work at the University of Berlin. In those days the most advanced and sophisticated training in Medicine could be obtained only in Europe, a trend which has been reversed only in the past two or three decades.

On returning to this country, Dr. Moseley assisted Dr. Hunter McGuire at the Old Virginia Hospital Clinic, and later assisted Dr. Stuart McGuire after the death of his father. He taught Toxicology and Medical Jurisprudence for eight years at his Alma Mater. Being quite fond of children, he served for many years as physician at the Richmond Male Orphan Society, later known as the Boy's Home.

Although well trained in surgery, Dr. Moseley became weaned gradually from that specialty into general practice, largely because his father needed assistance, having more than he could do. In that era general practitioners were hard pressed to keep up with their obstetric, pediatric, and orthopedic duties at the home or office.

In October 1945, Dr. Moseley was awarded The Medical Society of Virginia Certificate for 50 years service in Practice. His father had likewise practiced for over 50 years.

NOW BE IT RESOLVED that the Richmond Academy of Medicine express its sympathy to the bereaved family.

ALSO BE IT RESOLVED that these remarks be incorporated in the minutes of the Academy, and that a copy be sent to The Medical Society of Virginia.

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VIRGINIA MEDICAL MONTHLY

(Founded by Landon B. Edwards, M. D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

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TABLE OF CONTENTS

GUEST EDITORIAL

Virginia and the American College of Surgeons—

William R. Sandusky, M.D...... 57

ORIGINAL ARTICLES

Management of the Depressed Patient—

Robert S. Garber, M.D...... 59

Tympanoplasty—*Cary N. Moon, Jr., M.D.*..... 65

Maternal Age, Birth Rank and Prenatal Encephalopathies

—*Michael J. Rostafinski, M.D.*..... 71

Internal Fistula Formation Secondary to Colon Malignancy

—*Peter Hairston, M.D., and C. Bruce Morton, II, M.D.* 76

Clamp and Cautery Hemorrhoidectomy—

H. Fairfax Conquest, M.D...... 78

Medicine at the Crossroads—*John T. T. Hundley, M.D.*... 80

“But for the Grace of God”—*William S. Sloan, M.D.*.... 88

DIAGNOSTIC LABORATORY MEDICINE

Emergency Transfusion Therapy—

Richard C. Neale, Jr., M.D...... 91

PUBLIC HEALTH

Mental Health Center and Mental Retardation Facility

Construction Under Public Law 88-164..... 94

MENTAL HEALTH

Virginia's First Mental Health Congress—

W. Dimmock Buxton, M.D...... 96

WOMAN'S AUXILIARY

97

EDITORIAL

Giant Hypertrophy of the Gastric Mucosa (Menetrier's Disease)—*Robert Edgar Mitchell, Jr., M.D.*..... 99

The Inflationary Effect of Fee Schedules—

James M. Moss, M.D...... 101

NEWS

102

OBITUARIES

106

The MONTHLY is not responsible for the opinions and statements of its contributors.

All advertisements are accepted subject to the approval of the Editorial Board.

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INDEX TO ADVERTISERS—Page 40

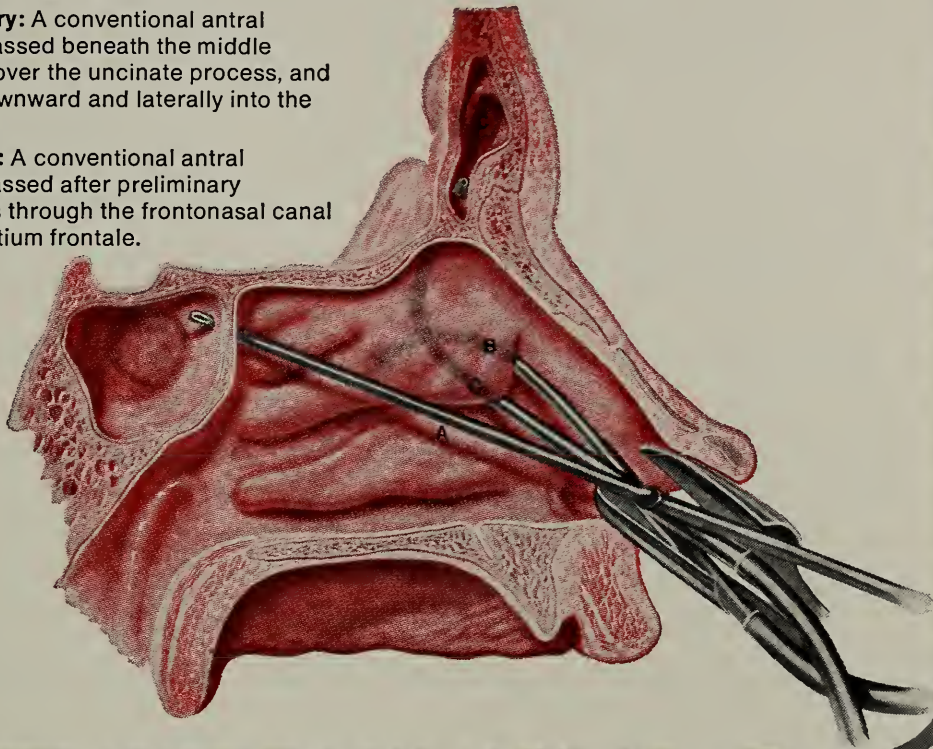
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*Reed, G. F.: Sinusitis, *New England J. Med.* 267:402, Aug. 23, 1962.

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REPRINT PRICES OF ARTICLES IN THE VIRGINIA MEDICAL MONTHLY

Trim Size: 8 x 11 inches

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THE WILLIAMS PRINTING CO.

11-13-15 North 14th Street

Richmond, Virginia 23219

Guest Editorial

Virginia and the American College of Surgeons

DURING the recent annual meeting of The Medical Society of Virginia, a group of Fellows of the American College of Surgeons, upon the call of Dr. John M. Emmett of Clifton Forge, a Governor of the College, met for the purpose of exploring the desirability of forming a chapter of that organization in Virginia. Present were general surgeons and surgical specialists—about forty in all. Dr. Emmett and Dr. James H. Spencer of Chicago, an assistant director of the College, spoke briefly and answered questions, and comments were heard from the floor. There was some enthusiasm for such a chapter, some honest skepticism as to its desirability and various shades of feeling in between. There were no extreme positions. The consensus of the meeting was one of serious inquiry into a proposition, the intent of which is to advance surgery in Virginia.

A paramount concern of the group immediately reminds one of posters that appeared in every railway station in Great Britain during World War II. These were designed to reduce traffic on the overly crowded transportation facilities of that country and often bore the caption, "Is your journey really necessary?"

Is this new organization really necessary? If the creation of a state chapter of the American College of Surgeons were to mean nothing other than an additional annual scientific meeting, be it ever so outstanding, there would be no justification for its formation. On the other hand, were it to offer unique advantages the proposal ought to receive serious attention. There are at least three singular benefits which might accrue if a strong and active state chapter were to come into being.

The burgeoning of modern science, carrying with it an expansion of all fields of medicine, has resulted in fragmentation of surgical practice. It

is no longer feasible, as it was a generation or so ago, for a single surgeon to encompass this broad field. Nonetheless, a strata of common concern transects the various compartments of surgery. Clinically, these shared interests include wound healing, oncology, traumatology, tissue transplantation, anaesthesia and shock, to mention but a few; and administratively, such problems as the organization and management of recovery rooms and intensive care units, the staffing of emergency facilities, and the control of hospital acquired infections. A College chapter not only will provide a setting at the local level for studying mutual problems such as these, but also will serve as a matrix binding together the fragments of surgery.

There are many Fellows of the College practicing in Virginia who are not members of other state-based surgical groups, either general or special. The professional life of these Fellows could be made more meaningful had they a local forum for presenting papers, exchanging ideas and engaging in dialogue with other like-minded individuals.

In addition to its educational functions, the American College of Surgeons is a well known and highly respected guardian of surgical ethics. Although one has no reason to suspect, in this region, any unethical practices such as the activity of itinerant or ghost surgeons, fee-splitting or unnecessary operations, it is prudent to be on guard, and to this end, it is obvious that surveillance by a local group is more effective when the local group is the arm of a strong and experienced national organization.

In pursuing these objectives a chapter of the College will be functioning uniquely and is unlikely to be in conflict with other statewide surgical societies. Conversely, in other matters there may be an overlapping of interests. If so, inevitably competition will be stimulated, hopefully to the advantage of all concerned.

One concludes, therefore, that this "journey" is really necessary and that a state chapter of the American College of Surgeons will be good for surgery in Virginia.

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Management of the Depressed Patient

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Because of the danger of suicide the depressed patient must be given thorough treatment by one familiar with this reaction. Various aspects of the problem are discussed here.

EVEN THE EXPERIENCED PSYCHIATRIST treats the mentally depressed patient with some apprehension, for he knows that his patient is potentially one of the 20,000 suicides or 100,000 would-be suicides which occur every year in the United States. The concern of the general practitioner or internist in the management of the depressed patient is thoroughly understandable because—at the time of the suicide or suicidal attempt—he, rather than the psychiatrist, is apt to have the patient in treatment. This is so for several reasons; in particular the family doctor or internist is often the only medical agent available and patients with depression usually complain of, and exhibit, a wide variety of *organic* symptoms.¹

Although the generalist encounters the patient with a mild depression rather than the delusional or psychotically depressed patient seen by the psychiatrist, the deceptive word “mild” should not obscure the potential seriousness of the condition. Mild depression is probably the most consistently missed diagnosis in medical practice; this is largely because the patient can present symptoms characteristic of almost any type

of organic disease. Some patients who complain of “depression” are not suffering from a depressive illness; and many patients in the throes of severe melancholia may neither complain of depression nor admit to it if questioned directly.² The use of the term “depression” to connote both a symptom and an underlying illness is a source of additional confusion.³

No person passes through the middle years without frustration, unhappiness and sometimes grief. A surprisingly large number of people are unable to cope with these discouragements without experiencing some degree of depression. The process is subtle, and the severity of the symptoms varies widely. Many patients complain of little more than a loss of vitality and initiative, while others contemplate—and, in extreme cases, attempt—self-destruction. One of the prominent initial signs is a general loss of interest and a reduction in energy and drive. The cardinal complaints of anorexia, insomnia, weight loss, sadness, guilt feelings and self-depreciation are readily recognized clues and need no elaboration here. When one encounters a patient who undergoes the following cycle, it is virtually pathognomic of a serious depression: The patient starts the day by dreading it intensely, wondering how he is going to function in all his roles. By early afternoon there is a slight improvement; by nightfall he is much better (this frequently masks the seriousness of the situation for the family). The patient welcomes the evening and retires readily, falls asleep fairly promptly, but then awakens before daybreak. By the time he must get up he is emotionally and physically exhausted, and foresees only the horrors of another day.

Kinds of Depression

This discussion will confine itself to those

Presented at the Second Seminar on Psychiatry for the General Practitioner, Westbrook Psychiatric Hospital, Richmond, May 16, 1964.

types of depression the general practitioner is most apt to encounter. 1. The manic depressive reaction, depressed type (the endogenous or psychotic); 2. the involutional psychotic reaction, frequently known as involutional melancholia; 3. the psychotic depressive reaction; 4. the reactive depression (exogenous type); 5. the secondary depression that is often associated with underlying somatic or psychiatric disorders; 6. depressive equivalent.* The generalist may see mild forms of any of these types, although mild forms usually appear most frequently in the *reactive and secondary depressions and depressive equivalents*.

Diagnosis

Diagnosis of many of these conditions requires great care and can be readily missed even in an extremely suicidal patient. Should the practitioner mishandle the diagnosis, the patient may feel rejected; this, in turn, may reinforce his depression. Depressive patients are difficult to deal with; it is easy for the most experienced psychiatrists to become impatient with them. But the irony is that the physician may be rejecting a patient who actually has a very good prognosis for recovery. Many years ago, Oliver Wendell Holmes said that to make a proper diagnosis a physician ought to be able to catch on to what he called the physiognomy of a disease, i.e., if we could be able to detect such a condition as readily as we might detect the familiar features of a good friend, it would make our clinical diagnosis a simple procedure. One author has suggested that, if you can imagine a person who has a guilty-perfectionist personality, who gets no kick or joy out of life, who complains bitterly of his body, particularly of fatigue, and has trouble, then you will know a depression.⁵

*In the latter, the reaction may clinically not even resemble a depression, the patient translating the affect into exaggerated somatic ailments or fears of disease. These are frequently missed unless a careful history is taken. Headaches, back pain, abdominal symptoms with no known organic etiology, and over-concern with minor physical symptoms are prominent in this type.⁴

History Taking

To make the diagnosis successfully, one should not rely solely on the history taken from the patient, a reliable relative or friend should also be interviewed. In talking to the patient who is not willing to concede that he is seriously depressed, you may discover that—in addition to his somatic complaints—he is blue, low, miserable, or feels that “maybe my family would be better off without me.” You must inquire from the patient and other informants whether there has been some recent disappointment or setback or a marked diminution of desire for food, sex, sleep and activity. In addition, it may be possible to substantiate a suspicion of alcoholism, absenteeism, or recent irresponsible actions in respect to family responsibilities.

Physical Examination

Physical examination should be thorough and detailed. The findings are often characteristic; not only are there obvious signs of depression in the facies, but also in the timbre of the voice, the spontaneity of responses, the weight loss, and the various signs of reduced secretions (dehydration and constipation).

During the physical examination, close attention must be given to the specific somatic complaints made by the patient. Even where there seems to be no grounds for somatic complaints, careful physical examination will reinforce the patient's confidence in the physician, encourage him to speak more freely and thus establish a more productive relationship with the physician.

Diagnosis

If the physician suspects that delusional symptoms, confusion and irrational behavior are present but finds difficulty in eliciting them, he should ask leading questions in an efforts to provoke a response (e.g.: “Have you ever had any unusual experiences in your life?”, or “You tell me that you are inclined to be a religious person, do you ever feel that God communicates with you?”)

For all types of depression, thorough, careful prediagnostic interviews are essential. It is usually advisable to grade the questions, ranging from an innocuous "How are you feeling today?" to "Have you ever thought of going to sleep and not waking up?"

A number of interviews are usually required before the physician can make a diagnosis of depression with confidence. When members of the family see the patient regularly emerge from his depression towards the end of every day, they may gain false encouragement and become optimistic to the point of misleading the physician. Often, on seeing some degree of improvement in the patient, the family will accede to the patient's reluctance to make any more follow-up visits to the physician. This may bring about a rather sudden, severe and discouraging relapse, which—in its turn—may *add* to the danger of suicide.⁶ The wise physician will follow through on broken appointments and not simply assume that this implies recovery or improvement.

Dynamics

If one investigates the personality of a depressed patient, one usually finds: first, a perfectionist type, moody, yet generally extroverted; second, a person who has lost his sense of security because of some loss; third, a person who develops guilt feelings even over trivial matters; fourth, a sufferer from ambivalence and indecision, often with an intense preoccupation with the co-existence of opposites; fifth, introjection and projection, whereby the feelings which the individual has towards his loss are turned inward against himself or outwards upon something or someone else.

Management of the Depression

The management of the depressed patient will depend on various factors, the nature, duration and depth of depression, the accessibility of the patient, the evaluation of potential suicidal intent, and the philosophy, experience, training and convictions of the

physician. Currently, the major approaches include psychotherapy, electro-shock therapy, and psychopharmacological therapy. *All* these approaches are applicable to both in-patients and out-patients. Each approach has its exponents and opponents, each of them seems to be effective for a significant number of patients. In some patients the specific therapy may be less important than the personal attributes of the physician.⁷ The patient must feel at all times the physician's concern, respect, and desire to help. Not infrequently, when a patient responds quickly to treatment, the physician reduces the number of contacts with the patient, only to discover that the patient's improvement has been arrested. The management of any depressed patient should never be assumed without the knowledge of some responsible member of the patient's family.

The Emergency Aspects

The patient who threatens suicide, or who is believed to have suicidal thoughts, *must* be treated on an emergency basis. The recognition of a potentially suicidal patient depends on information obtained from conventional methods of diagnosis employed in clinical medicine; there are, in general, no specialized and unavailable techniques.⁸

Suicide most frequently occurs among men in the involutional years between 45 and 64. People who commit suicide, are usually under- or overweight; they seem to be trying to escape from a situation which they believe to be unbearable. The greatest incidence of suicides is in May or June, in the early morning, on clear days, and during the first part of the week.⁹ Such persons often select a means of death which they have recently heard of or read about in a television or newspaper report.

There are many old wives' tales and misconceptions about suicide: that suicide is *always* a symptom of mental disease; that suicide is rare among Negroes; that a strong religious belief provides an effective check on suicide; that those who talk about suicide never do it; that the patient who can speak

logically will never take his life; that children do not commit suicide; that the mental defective is "too dumb" to commit suicide; that direct questioning about suicide should be avoided.

Danger Signals Regarding Suicide

The physician should be alert to the following danger signals: 1. The presence of a depression; 2. a past history of a suicide attempt; 3. a family history of suicide; 4. the patient seems to be emerging from his depression; 5. bizarre reactions in patients who are suffering from continuous pain or dyspnea or any other form of discomfort of a chronic progressive nature; 6. indications of an early organic psychosis complicating any physical disease, particularly when there is clouding of consciousness, confused thinking, absent-mindedness, preoccupation, memory defect, periodic disorientation, and marked fluctuation in mood and attentiveness; 7. a combination of serious physical illness with a psychosis.

It is important that the physician should ask leading questions; if good rapport is established, the opportunity for the patient to talk about his impulses may prove therapeutic. Although it is not known how to assess the danger of suicide accurately in any specific individual, we do know that the risk is particularly great in patients who appear to be preoccupied with death. It is important to interview the family about suicidal communications, since they may be the first to receive them.¹⁰

Suicidal Gestures

For every case of suicide there are half a dozen suicidal gestures. Often, these are made by young women frantically ingesting caustic compounds, headache pills or sleeping capsules. These individuals are momentarily deeply frustrated but have no real desire to die. One can interpret their gestures as an appeal to their erstwhile lovers for affection, mercy, or forgiveness. Yet other emotions may be involved, such as spite, vengeance, guilt or shame. Suicidal gestures

arising from these emotions may also be interpreted as pleas for help. Sometimes a compromise is effected by sacrificing a part of the body, such as a limb, eye, or the genitalia, in lieu of the whole organism.¹¹

Evaluation

Although there is a need for the physician to investigate carefully every patient who admits to a suicidal tendency, there are no reliable systematic procedures available for the evaluation of the likelihood of an actual attempt. But it behooves a clinician on whom the family depends for guidance at crucial moments to anticipate the likelihood of a suicidal gesture, to advise the family accordingly, and to manage the patient until the crisis is past.

Hospitalization

If necessary, the patient should be hospitalized as a voluntary patient. There are instances when patients may be too ill to be fully appreciative of the need for hospitalization, or have so masked their feelings that they can talk themselves out of hospitalization. Frequently, too, they may talk their relatives out of committing them to a hospital. When this occurs, the physician would do well to inform the family that he will not accept responsibility for the patient unless the family cooperates. As a matter of policy, and because the written word may sometimes carry added authority and persuasion, the physician should spell out the situation in writing, including the disclaimer of responsibility if cooperation is not forthcoming.

Psychotherapy

The mainstay of management in depression is psychotherapy, and the most important aspect of this is the doctor-patient relationship. One should see the patient frequently, no less than twice a week and oftener if possible. The physician must take great care not to seem rejecting, disapproving or threatening in any way. He must never moralize. Understanding, reassurance, and encouragement are sometimes enough to

enable the patient to be rehabilitated. It is sometimes helpful to impress on the patient how common depression is, and how favorable the outlook is for his improvement.

A useful asset of most practitioners is a sense of humor, properly applied in judicious amounts. Some caution must be utilized in the use of humor because depressed patients, with their undischarged and turned-in hostility, do not respond well to happy-go-lucky, cheerful attitudes on the part of the physician.¹² When depressed patients themselves demonstrate a sense of humor, the prognosis is good; where it is totally lacking, the prognosis should be more cautious.

Care must be taken not to impair the psychotherapeutic relationship. It is best *not* to suggest changes of environment, vacation trips, job changes, or marital alterations. Be careful not to interpret his behavior too freely. Be aware of your own irritations with the patient's seemingly endless need for support and reassurance. Although it is important to treat any obvious illness, avoid a patently fruitless search for an elusive minor physical disease. Be wary of being manipulated by the patient and/or the family against your better judgment. Endeavor to prevent a premature discharge of the patient from the hospital if there is any serious doubt about the outcome.

In working with any disturbed patient, the physician's demeanor is of particular importance. He should display the usual human reactions of an interested, involved, but objective observer, for this will strengthen the patient's feelings of acceptance, empathy, and security. False reassurances should never be given; they should be related to those aspects of the patient's total condition of which the physician feels fairly certain.¹³ In dealing with patients who are in an involutional stage it is well to bear in mind that symptomatic improvement is frequently not sustained and that, unless the improvement is accompanied by a realistic reorientation on the part of the patient, a relapse may occur. The therapeutic goal should not be limited to the removal of

symptoms or the manipulation of the environment. A necessary addition is to help patients gain a realistic perspective of their own futures. This need not require extensive psychotherapeutic intervention. For example, it may be sufficient to get the patient to accept that menopause or retirement from a job are expected events of life, and that a degree of discomfort may well accompany such events. The inevitable anxiety associated with the later years in our culture should also be pointed out.¹⁴

Electro-Shock Therapy

In the use of electro-shock we have a specific therapy for the symptoms of depression. Generally speaking, the risk is extremely low, and it remains one of the safest and most effective forms of therapy.¹⁵ There are a few contraindications, such as tuberculosis of any degree, and severe heart disease. Electro-shock is frequently a life saving measure, no matter what the patient's age. In many instances it may enable us to interrupt the progress of a depression to such an extent that electro-shock can then be temporarily halted in favor of psychotherapy. Another type of electro-shock therapy is known as "maintenance shock treatment". This is utilized when individuals suffer from periodic depressions. These periodic depressions are particularly distressing to the patient and to the family when the individual is a professional person whose livelihood is dependent on constant availability. Presently the author has two physicians, a minister, and a lawyer under maintenance shock therapy. The frequency of their treatment varies from once a month to once every four to six months. These patients have been enabled to remain out of the hospital for several years, although institutionalization had been frequent for them in preceding years.

Drugs

There are no specific drugs that can be routinely and effectively applied in depression. The physician should explain to the patient and his family that a drug is of value

only when it is used in conjunction with psychotherapy. The chief advantages of antidepressant medication are that it makes it possible to treat patients outside the hospital, and that it avoids the temporary memory loss and confusion that are commonly encountered with electro-shock therapy. Drugs may be tried in mild depressive reactions when the suicidal risks have been expertly evaluated as small, when the patient refused psychiatric hospitalization or electro-shock therapy, or when the latter treatment is found to be ineffective. In recurrent depressions, drugs may be used as a means of maintaining improvement after electro-shock therapy and lengthening the intervals between exacerbations.¹⁶

In the choice of drug the physician has to consider the method of administration, the dosage, the timing, the mode of action, and the tolerance of his patient to side effects. Since no single form of medication is universally applicable, the physician must be careful not to impart bouyant expectations to his patient concerning their effectiveness. An excellent, comprehensive and up-to-date publication dealing with the pharmacologic and toxicologic aspects of most drugs—"A Selective List of Drugs Used in Psychiatry"—is contained in the Psychopharmacology Service Center Bulletin 2:1-36, March, 1962. This may be obtained from the Psychopharmacology Service Center, National Institute of Mental Health, Bethesda 14, Maryland.

Conclusion

Although depressed patients are difficult to manage, when properly managed, they offer the best prognosis of all psychiatric disorders. The general practitioner is often the person most fitted to undertake management. In any case, in the majority of instances he is the first line of defense for the patient. The scope of the problem, the types of depression most frequently encountered, various methods of diagnosis and some of the techniques and pitfalls of management are discussed.

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Tympanoplasty

Objectives, Techniques and Results

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Patients with infection damaged ears can, in many cases, be given healthy ears with improved hearing. All procedures will not be successful and some will have to be repeated. Various operative procedures and their indications are discussed.

PLASTIC SURGERY of the infection damaged ear has evolved over the past fourteen years. The initial contributors to this evolution were Moritz (1950), Zollner (1951), Wullstein (1952) and House (1953). A better understanding of middle ear physiology, a conservative respect for middle ear structures, the operating microscope and the employment of prosthesis are the new developments in the handling of the so-called "chronic ear". This paper is a report of the author's experiences, results and opinions gained from some ten years of interest and participation in plastic reconstruction of the infection damaged ear. Particular emphasis will be placed on the indications and objectives of tympanoplasty, and finally the results obtained in the various types over the past year (1963) will be reported.

The modified radical mastoidectomy and

From the Department of Otolaryngology, University of Virginia School of Medicine.

Presented at the annual meeting of The Virginia Society of Ophthalmology and Otolaryngology, Arlington, May 1964.

the radical tympano-mastoidectomy have given way to the tympanoplasty procedure with or without simple mastoidectomy. Ten years ago ear surgery was limited to procedures that almost invariably led to the irreversible destruction of the operated ear in an all out effort to eliminate chronic or recurrent disease. The radical tympano-mastoidectomy procedure all too frequently resulted in further hearing loss and a wet cavity requiring months and even years of attention. Many of these procedures were followed by revisions in an effort to obtain a dry ear. The modified radical operation was the first mastoid middle ear procedure advocating conservation of a functioning middle ear but this procedure left the patient with a mastoid bowl and frequently with a residual hearing loss.

From the extensive meticulous radical tympano-mastoidectomy we have revolved a complete 180 degrees to a simple mastoidectomy and tympanoplasty in even the most severely damaged ears. Today's surgery of the infection damaged ear aims at the maintenance of or reconstruction of a skin-lined canal, an intact tympanic membrane, an air filled middle ear space and a sound conducting system. Complete removal of disease, in particular cholesteatoma, is still essential to success. Today with good illumination and magnification, and with two eye, two hand techniques, it is possible to remove all disease and at the same time avoid damage to essential structures. No longer is the general area of the facial nerve avoided but anatomical orientation and adequate visualization of the entire middle ear permits the necessary complete removal of disease. Middle ear mucosa is conserved as an essen-

tial feature of an air filled middle ear and of middle ear function and health. Diseased or non-functioning ossicles are easily recognized and these problems can usually be effectively handled. Inadequate or absent eustachian tube function in tympanoplasty surgery is rarely encountered but when it is the prospects of hearing gain and middle ear reconstruction are greatly reduced or even eliminated.

Review of the Literature

In 1953 Howard P. House¹ reported four cases of surgical repair of the perforated eardrum using full thickness post-auricular skin and utilizing the promontory surface as a vascular bed for the graft.

In 1955 Fritz Zollner² of Freiburg, Germany, published an article entitled "Plastic Surgery of Sound-Conducting Apparatus". He reported a large series of plastic repairs of perforations using full thickness skin. Zollner also described the various problems encountered in the sound-conducting apparatus. He described a technique of myringostapedioplexy and also malleolar stapedioplexy.

In 1956 Horst Wullstein³ of Wurzburg, Germany, published in the "Laryngoscope" an article entitled "Theory and Practice of Tympanoplasty". This was a fundamental, practical discussion of middle ear physiology. He classified and described the various defects of the sound-conducting system. He described "three control entrances"—the mastoid antrum, the upper control of the middle ear and the lower control of the middle ear. In an article in the "Annals of Otology, Rhinology and Laryngology" in 1956 Wullstein⁴ described his technique of handling restoration of middle ear function in the five types of defects encountered. He advocated the use of a thin full thickness skin from the post-auricular fold.

Myer⁵ and Schlosser in 1960 described an anterior-posterior technique for the treatment of chronic otitis media and mastoiditis. These procedures consisted of a post-auricu-

lar mastoidectomy to eliminate mastoid disease and a transcanal tympanotomy to eliminate middle ear pathology. This anterior-posterior technique was followed by a tympanoplasty.

Tabb⁶ in 1960 described the use of vein grafts in closure of perforations of the tympanic membrane. He applied the autogenous vein graft to the denuded under-surface of the tympanic membrane or to the denuded epithelial surface of the tympanic membrane. In this same article Shea reported use of the vein graft between the epithelial and mucosal layers and reported 13 or 14 successful closures.

In 1961 Austin⁷ and Shea reported "A New System of Tympanoplasty Using Vein Graft". They described their technique of vein graft myringoplasty, ossicular chain reconstruction and cholesteatoma removal without or with a transcortical mastoid antrostomy. They reported a primary take of the vein graft of 93% and an over-all success rate of hearing improvement of 77%.

Tabb³ in 1963 reported on surgical management of chronic ear disease with special reference to staged surgery. He described three basic steps. "1. All disease of the mastoid and tympanic cavity must be eliminated. 2. A closed, air-containing tympanic cavity must be secured by the application of a vein graft to the perforated tympanum. 3. The sound-conducting mechanism must be reconstructed."

Storrs⁹ in 1963 reported on the use of temporalis muscle fascia to repair defects in the tympanic membrane. This tissue is abundant and fulfills most of the qualifications for an ideal tissue graft.

Indications

The indications for tympanoplasty and mastoid surgery are the same as in the past only now we can recommend elective reconstructive surgery in the dry, uninfected ear. It is entirely reasonable to repair a tympanic membrane perforation to permit the individual to resume water sports with

safety and comfort. Any ear with a tympanic membrane perforation, any ear with a conductive hearing loss, any ear with a cholesteatoma and, of course, any ear with recurrent or continuing drainage can and should be considered for surgical treatment and repair.

Objectives

The objectives of middle ear mastoid surgery are clearly understood. First, and of major importance, is the eradication of disease and, in particular, this would refer to the absolute necessity of the removal of all cholesteatoma. The removal of granulations and diseased mucosa is carried out with adequate illumination and magnification. The operating microscope is essential for surgical completeness and for safety. Rarely is diseased bone encountered. The establishment of good middle ear drainage and ventilation will greatly improve the chances of cleaning up infection and prevention of recurrent infection. However, at the same time a program of conservation of healthy mucosa, conservation of functioning ossicles and conservation of tympanic membrane remnants is essential.

The second objective of tympanoplasty surgery is the establishment and/or the maintenance of an air filled, mucosa lined middle ear cavity. This is possible only when there is adequate eustachian tube function. If there is an air space with normal mucosa there is adequate eustachian tube function. There would appear to be little reason to go to middle ear evacuation tests to prove eustachian tube function unless there is evident obliterative middle ear disease or mucoid or serous fluid in the middle ear. Tympanic membrane and/or middle ear inspection with the microscope, Valsalva (auto-inflation), air pressure politzeration, drum massage with a pneumoscope attachment to the otoscope and myringotomy will usually give adequate information about the status of the middle ear space and the eustachian tube.

The third objective is an intact functioning tympanic membrane. Small tympanic membrane perforations can frequently be closed by office treatment. The larger perforations and those that persist after attempts as an office procedure can be closed with vein or fascial grafts. Atrophic, non-functioning drum areas should be excised and grafted. Large tympanosclerotic drum plaques should be removed. These plaques interfere with graft nutrition as well as interfering with drum movement to sound vibration.

The fourth objective is the reconstruction of a functioning sound conducting system from the tympanic membrane to the oval window. The most frequent ossicular chain defect encountered in the infection damaged ear is a deficient long process of the incus with loss of contact between the head of the stapes and the incus. The distal end of the long process of the incus is very subject to atrophic necrosis, probably due to a reduced blood supply. The stapes is occasionally fixed with tympanosclerotic deposits or even otosclerotic-like involvement. The malleus and incus are frequently noted to be stiff or fixed. In badly diseased ears the stapes footplate and a part of the malleus may be all that remains of the ossicular chain. In radical tympano-mastoidectomy postoperative cavities the stapes or the stapes footplate remains.

Frequently the remaining part of the incus can be removed and myringostapedio-plexy performed. This will give excellent hearing gain and should be attempted when indicated at the time of the initial surgery. The incus-stapes prosthesis of Austin is useful but is quite difficult to insert properly between the long arm of the malleus and the stapes footplate. We prefer to do a stapedectomy and prosthesis from the malleus long arm to the oval window as a second stage procedure after repair and healing of the tympanic membrane graft. Transposition of the inadequate incus is an effective method of reconstructing a sound conduction system.

Tympanoplasty Type I

The plastic repair of a tympanic membrane perforation with an intact ossicular chain is by definition tympanoplasty type I (a method of sound pressure transfer) but this is also referred to as a myringoplasty. The audiogram shows only a moderate or minimal conduction hearing loss, inspection of the residual drum and the history will frequently suggest an intact and functioning ossicular chain in which case only a myringoplasty is indicated. A tympanotomy should be done to confirm this preoperative impression whenever the continuity and function of the ossicular chain is doubtful. The perforation margins are separated with removal of the mucosal epithelial junction and eversion of the outer epithelial margin. The graft is prepared a little larger than the perforation and is positioned under the margins within the middle ear, being supported on blood clot or gelfoam. The grafting tissue varies with the surgeon's preference. We have used vein graft, fascia or, with a small perforation, a subcutaneous fibrous plug. The epithelial flaps are carefully placed over the lateral surface of the graft and the canal is packed with blood clots or gelfoam. Results with myringoplasty are consistently reliable depending somewhat on the size and location of the defect. These repairs are done quite satisfactorily under local infiltration anesthesia except with children where general anesthesia is necessary.

TYMPANOPLASTY—TYPE I—RESULTS 1963

Myringoplasty—vein and/or fascia

Total number of ears operated.....	16
Total number of procedures.....	21
<i>Tympanic membrane closures</i>	14

Ears—14 of 16—88%

Procedures—14 of 21—67%

Primary procedures—12 of 16—75%

TYMPANOPLASTY—TYPE I—RESULTS 1963

Hearing Improvement

Total number of ears operated.....	16
Total number of procedures.....	21

Primary procedure—

no hearing improvement—5—31%

Primary procedure—Bone-air closure—11—69%

Final results—Bone-Air Closure

Ears—13 of 16—81%

Procedures—13 of 21—64%

Tympanoplasty Type II

Tympanoplasty type II refers to situations where the ossicles are not intact but the lever ratio is maintained by two or three units substituted or unsubstituted chain, for example, a stapedectomy, ossicular repositioning or prosthesis from malleus handle. Stapes substitution is done with a stainless steel or teflon prosthesis attached to the incus and directed into the oval window as in stapedectomy for otosclerosis. When the incus is absent or the incus residual is unusable a teflon prosthesis may be positioned between the malleus long arm and the stapes footplate or a piston type substitute may be attached to the malleus long arm and directed into the open oval window after doing a sub-total stapedectomy. These open oval window procedures cannot be done in the presence of middle ear infection and probably should be delayed to a second stage procedure in the presence of a tympanic membrane perforation, the myringoplasty being the first stage procedure. In our experience the prosthesis to the open oval window gives a better and more consistent hearing result than does the interposition prosthesis between malleus and stapes footplate. Transposition of the incus, i.e., the repositioning of the incus between the long arm of the malleus and the head of the stapes is a reliable technique.

Ossicular Chain Findings

Number of ears operated.....	48
Deficient incus	35—73%
Stapes Fixation	3
Incus-Malleus Fixation	10

Types of Prosthesis Used

Incus stapes	18
Columella	5
Stapes	4

Tympanoplasty Type III

The tympanoplasty type III columella procedure possibly should be divided into two sub-types. Where it is possible to effect

a natural columella to the head of the stapes with the myringoplasty graft or the tympanic membrane the hearing results are quite satisfactory and very little hearing is lost by absence of the lever ratio of the three link ossicular chain. Artificial columellas from the stapes footplate or the head of the stapes are relatively unreliable and the prosthesis tends to perforate the tympanic membrane or myringoplasty graft. This is probably due to the incorrect length of the artificial columella and the motion. Possibly these failures can be prevented by some means of fixation of the medial end of the prosthesis and padding of the lateral end of the prosthesis.

Tympanoplasty Type IV

Tympanoplasty type IV in which the oval window is left open to the canal and the round window is protected by a middle ear cavity reduced in size has been quite unreliable and unpredictable in our experience. This procedure is reserved for cases of obliterative middle ear disease where type III procedures seem impossible.

TYMPANOPLASTY TYPE II, III AND IV RESULTS	
Total number of cases:	
Type II	10
Type III	48
Type IV	22
Myringoplasty—Vein and/or fascia	
Number of cases	70
Number of closures	48—69%
Number of failures	22—31%
Hearing Improvement	
Number of cases	80
B - A closure \pm 10 db	46—58%
No improvement	34—42%

Tympanoplasty Type V

We have not resorted to the fenestration of the lateral semicircular canal in tympanoplasty surgery. There would seem to be disadvantages to the mastoid bowl and the fenestra that would appear greater than the disadvantages of a hearing aid.

Cholesteatoma

The true etiology of cholesteatoma re-

mains a debatable subject. We have been greatly impressed by the regenerative ability of the epithelial layer of the tympanic membrane and feel proliferation may go astray and that this could explain destructive middle ear cholesteatoma. One of our patients with serous otitis media in whom a drainage tube was used through a myringotomy wound developed a middle ear cholesteatoma which appeared to arise from the area of the myringotomy rather than from Shrapnell's membrane retraction.

Cholesteatoma—Middle Ear and/or Mastoid	
Total number of patients	64
Total number of procedures	83
Cholesteatoma diagnosed 1st procedure	
Cholesteatoma seen 1st procedure	25—39%
No cholesteatoma seen 1st procedure	39—61%
Patients requiring 2nd operation	19—28%
Cholesteatoma 2nd procedure	6—32%
No cholesteatoma 2nd procedure	13—68%

Conclusion

Tympanoplasty results are infrequently seen in the otological literature which probably suggests many failures and many repeat procedures. It is clearly recognized that when a closed mastoid middle ear operation technique is employed with cholesteatoma a rate of recurrence of disease will most certainly exist. Nevertheless there is so much to be gained by plastic reconstruction, i.e., an intact drum and improved hearing, that the risk of failure should be accepted and confronted by the patient and the otologist.

In conclusion, we wish to emphasize our belief in conservative tympanoplasty techniques with or without mastoidectomy. These patients with infection damaged ears can be given dry, healthy ears with complete tympanic membranes and with improved hearing in a high percentage of instances. Multiple procedures may be necessary in certain cases but the end results make the efforts worthwhile.

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Newborns See Better

A newborn baby has greater visual acuity and coordination of eye movements than previously supposed, according to Los Angeles researchers. Two studies of infants averaging one to two days old were reported by Glenn O. Dayton Jr., M.D., Margaret H. Jones, M.D., Barry Steele, Marvin Rose, Patrick Aiu and Richard A. Rawson, M.D., in the June Archives of Ophthalmology, published by the American Medical Association.

Estimates of visual acuity at birth have ranged from 20/2,000 to 20/670 and the development of normal 20/20 vision has been believed to evolve during the first five years of life. However, in a study of 39 full-term, apparently normal infants, 9 demonstrated 20/150 vision. The technique used was one which has been established for determining visual acuity in adults. It was performed by means of a canopy placed over the baby's bed. Eye movements were recorded electrically. The records of only 13 of the infants could be interpreted because the others did not respond, some because they fell asleep.

The researchers concluded that the visual acuity in newborns is "at least 20/150 and may be even better." Not only the motor but also the sensory capacity for coordinated eye movement may already be present in the newborn. Only infrequently were dissociated eye movements observed.

Having determined that some newborns have sufficient visual acuity to fix both eyes on a single target, the researchers tested a group of 45 full-term, normal infants on their ability to follow a series of dots moving across the canopy. Seventeen of the infants, the majority of those whose eyes were open during the test, were capable of locating the moving dots and following them across the canopy. Each eye moved simultaneously in the direction of the target, and both eyes moved over the same period of time. Tracings of the individual eye movements were similar indicating close conjugation of the eyes.

The study was made at the University of California, Los Angeles, The Center for the Health Sciences.

Maternal Age, Birth Rank and Prenatal Encephalopathies

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A group of 118 children admitted to the Lynchburg Training School and Hospital has been analyzed to determine whether there are factors other than the maternal age and birth rank contributing to the development of congenital encephalopathies.

COLLMANN AND STOLLER¹ found increasing incidence of some congenital maldevelopments as the maternal age increased. They found also that there was a lower incidence of congenital maldevelopments among persons born as second children with an increase in incidence as the birth rank progressed. The authors analyzed the maternal age and birth rank separately. Nabors² analyzed the maternal age and parity in relationship to cerebral palsy. He found the incidence of cerebral palsy in children of multiparas older than 35 to be significantly greater than anticipated. The incidence of cerebral palsy did not increase among children of primiparas over the age of 35. These two studies indicate that the incidence of damage to the central nervous system is different among persons born to mothers of different age groups and is also different for those born with different birth rank. This conclusion, however, is not shared

by all investigators. Bleyer³ is of the opinion that the incidence of defects involving the central nervous system is different only in different maternal age groups. He concluded that birth rank cannot be correlated with the incidence of defects as "many investigators were tricked from this false lead and were unable, even after extensive study, to distinguish the elusive and apparent point of birth rank and the aging of the mother. What counts is not the number of births that a woman has but when she has them." This quotation indicates that the separate analysis of maternal age and birth rank, although yielding important information, has created difficulty in the interpretation of findings and has led to conflicting conclusions.

The present study is an attempt to analyze the interaction of maternal age and birth rank together since these two factors are, biologically speaking, inseparable. They increase as time passes, though by different rate in different mothers.

Selection of Cases

During the period between July 6, 1960, and January 1, 1963, there were 604 newly admitted patients presented to the Diagnostic Staff Conference at the Lynchburg Training School and Hospital. This is the only State institution for white mentally retarded persons in the State of Virginia. The selection of patients for this study was restricted to children who were ten years of age or younger on January 1, 1963. The upper limit of ten years was arbitrarily set in order to have a compatible control group. Analysis of statistics of the general population indicated conspicuous differences be-

Presented at the Annual Meeting of the American Association of Mental Deficiency in May 1964 in Kansas City, Missouri.

tween decades in the maternal ages at which children were born. The data on the live births in the white native population in the State of Virginia⁴ served as a control group. Almost all of the diagnostic categories were included in this study. The diagnostic classifications were made according to the Manual on Terminology and Classification in Mental Retardation.⁵ Excluded were conditions which could not definitely be labeled as prenatal or postnatal. In inborn errors of metabolism the etiologic factor is prenatal. The pathologic manifestations, however, have their clinical onset after birth. Leukodystrophies and cerebellar degenerations were excluded for this same reason. The encephalopathies due to unknown causes were excluded also.

There were 121 admissions fulfilling the criteria for age and classification. Three of the patients were excluded because of incomplete data as far as the maternal age and/or birth rank were concerned.

Methods

The 118 patients selected were divided into three groups. The grouping of patients is listed in Table I.

TABLE I

MEDICAL CLASSIFICATION AND GROUPINGS OF 118 PATIENTS

<i>Classifications</i>	<i>Number</i>
Group I	
Natal and Postnatal Encephalopathies	
Encephalopathy due to postnatal cerebral infection---	15
Encephalopathy due to mechanical injury at birth----	6
Encephalopathy due to anoxemia at birth-----	7
Encephalopathy due to postnatal injury-----	11
Encephalopathy associated with prematurity-----	17
Total in this group-----	56
Group II	
Prenatal Encephalopathies	
Encephalopathy, congenital, associated with prenatal infection-----	3
Encephalopathy, congenital, associated with toxemia of pregnancy-----	1
Encephalopathy due to prenatal injury-----	2
Cerebral defect, congenital-----	15
Cerebral defect, congenital, associated with primary cranial anomaly-----	16

Other, due to unknown prenatal influence-----	3
Total in this group-----	40

Group III

Mongolism-----	22
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The encephalopathies associated with natal and postnatal conditions have been put together into one group since the differentiation between natal and postnatal conditions is frequently difficult or even impossible.⁶ The classification of encephalopathy associated with prematurity has been included in this group. Patients so classified had apparent symptoms of brain damage, but the histories were negative except for prematurity. Greenbaum and Buehler⁷ demonstrated on a group of brain damaged children that the mean level of intellectual functioning was slightly higher among those who were born prematurely, than among those born at term. Bandera and Churchill⁸ found that among cerebral diplegic patients the incidence of prematurity was significantly increased. On the other hand, they demonstrated that the incidence of premature births was approximately equal among mentally defectives with no gross neurologic symptoms and those who were neurologically and mentally normal. It should be concluded, therefore, that the prematurity is not responsible for brain damage and that there were other factors contributing to the development of brain damage present.

The second group was composed of patients suffering from encephalopathies associated with prenatal conditions. Those premature patients who had positive prenatal history and/or showed evidence of congenital defects at birth were included in this group. In our material it was found that the incidence of prematurity is approximately the same among patients listed in the first and second groups.

Mongoloid patients, although by definition belonging to the second group, have been put separately, serving to some extent as a control group, since the relationship between the maternal age and mongolism has been well established. In order to ana-

lyze the relationship between maternal age and birth rank in the three groups of patients, scattergrams were made, and regression lines computed. (See Figures 1, 2 and 3.)

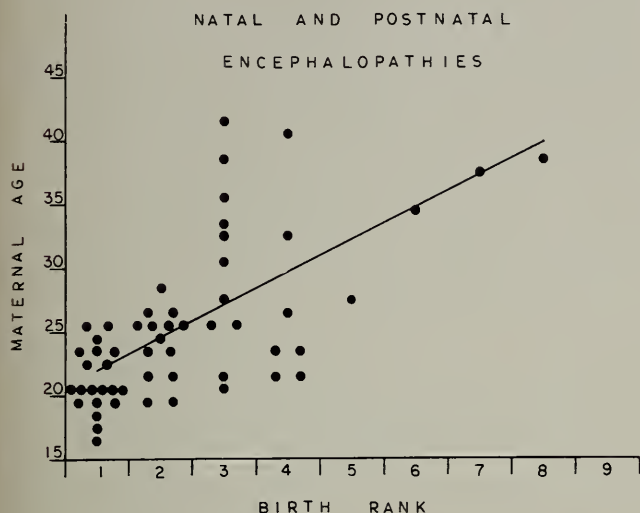


Fig. 1. Scattergram and regression line of 56 cases of natal and postnatal encephalopathies in reference to maternal age and birth rank.

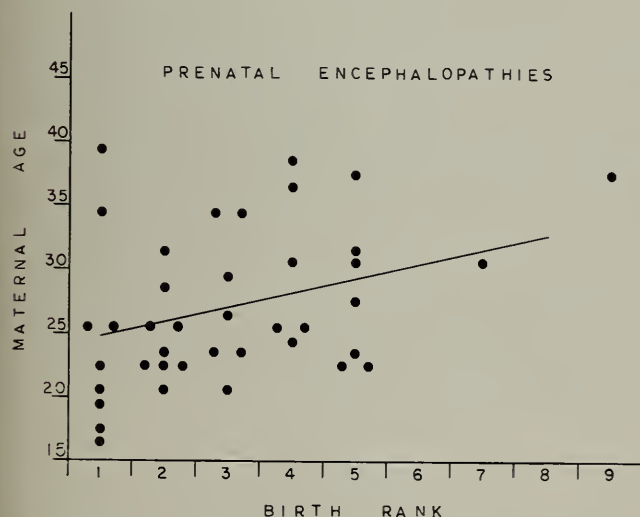


Fig. 2. Scattergram and regression line of 40 cases of prenatal encephalopathies in reference to maternal age and birth rank.

Discussion

In the natal and postnatal group there are 34 males and 22 females. The higher incidence of male patients confirms previous observations that male newborns and young children show a higher degree of mortality than females.⁹ There is a precisely equal distribution of sexes in the prenatal and mongoloid groups.

The three scattergrams presented reveal apparent differences in the distribution of cases in respect to different maternal age groups and birth rank. In the group of natal and postnatal encephalopathies, there

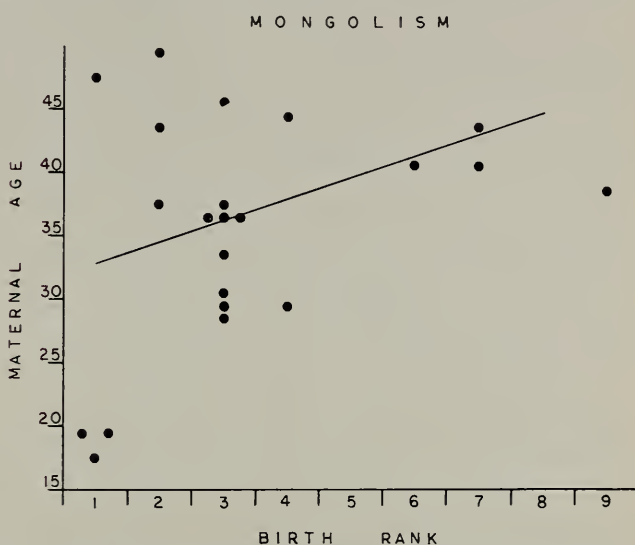


Fig. 3. Scattergram and regression line of 22 cases of mongolism in reference to maternal age and birth rank.

is a higher frequency of patients born to young mothers and with low birth rank. This distribution resembles closely the distribution of live births in the general population.

In contrast to the former group, the scattergram of the group of prenatal encephalopathies reveals more uniform distribution of cases born to mothers between the ages of 20 and 40 with the birth rank between one and five. There is, therefore, lower incidence of patients in the group of young mothers and with low birth rank and apparently higher incidence of patients born to the older mothers and for those with higher birth rank. The scattergram of the mongoloid group indicates that the majority of cases are born to mothers older than 30 and with the birth rank of three or higher. The presence of three cases of mongoloids born to mothers younger than 20 is not a surprising finding since Penrose¹⁰ demonstrated that there is a significant secondary peak of incidence of mongolism among very young mothers. The differences in dispersion of cases in respect to maternal ages and birth ranks indicate that the occurrence of con-

genital defects does not take place at random.

Figure 4 shows the regression lines of the three scattergrams and a regression line of the general population in the State of Virginia. The slopes of regression lines were

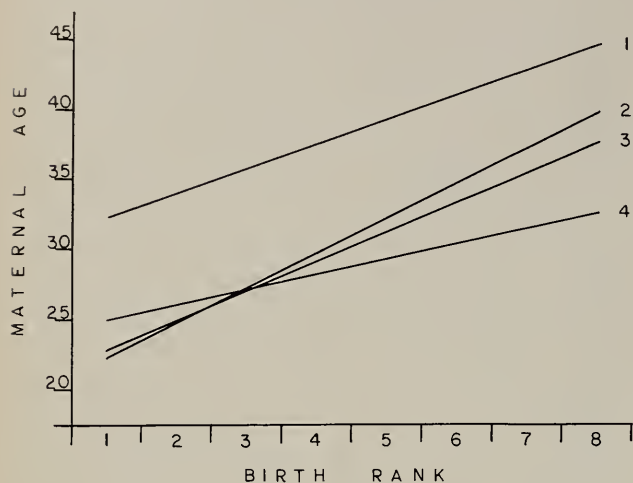


Fig. 4. The linear regression lines for: 1. Mongolism. 2. Natal and postnatal encephalopathies. 3. Live births in general population. 4. Prenatal encephalopathies.

compared by pairs to determine if significant differences exist.¹¹ Although only hospitalized patients were included, it can be assumed that the hospitalized group of patients is not different from the remainder of non-hospitalized children, as far as the distribution of maternal ages and birth ranks is concerned. The slope of the regression line for natal and postnatal conditions showed no significant difference from the slope of regression line for live births in the general population. It should be assumed that the postnatal conditions are proportionately distributed among children regardless of maternal age and birth rank, and therefore, the regression line for these conditions only, should follow the regression line for the general population. As far as the natal conditions are concerned the clinical observations indicate that incidence of birth injuries is higher among persons born to very young mothers.¹² On the other hand, among primigravida older than 30 and mothers older than 35 regardless of parity, the prolonged labor and fetal hazards associated with it are more frequently observed.¹³ On the basis of

these clinical observations, we should anticipate that the regression line for natal conditions only should show deviation from the regression line of the general population in that it should tend to be lower at low maternal ages and low birth ranks and the line should deviate upward as maternal ages and birth ranks increase. This postulation is in agreement with the presented findings.

The slope of the regression line of the group of prenatal encephalopathies is significantly different at the .05 level from the slope of the regression line for the general population. The former is also significantly different at the .05 level from the slope of the regression line for the group of natal and postnatal encephalopathies. These findings indicate that in the occurrence of prenatal encephalopathies, factors other than the normal interaction of maternal age and birth rank are in operation.

It is interesting to note that the slope of the regression line of prenatal encephalopathies is similar to the slope of the regression line of the mongoloid group. The significance of this finding has not been estimated because the regression line of the mongoloid group is not a very accurate one. The sample is small and the presence of three cases of mongoloid children born to young mothers makes it difficult to fit precisely the regression line to the data.

Summary

The interaction of maternal age and birth rank was studied in 118 children who were hospitalized at the Lynchburg Training School and Hospital, Colony. Patients were divided into three groups: the first group was composed of patients suffering from natal and postnatal encephalopathies; the second group suffering from prenatal encephalopathies; and the third group was composed of mongoloid patients. Scattergrams in reference to maternal ages and birth ranks revealed conspicuous differences in distribution of cases indicating that the congenital defects do not occur at random. The

linear regression lines were computed and compared by pairs to determine if significant differences existed. It was found that the slope of regression line for the group of prenatal encephalopathies differed significantly (at the .05 level) from slopes of the lines of the general population as well as from the group of natal and postnatal encephalopathies. The difference in the slopes of the regression lines indicates that in the occurrences of prenatal conditions, factors other than the normal interaction of maternal age and birth rank are in operation.

ACKNOWLEDGMENT

The author is indebted to Mr. William M. Mead, M.S., Director, Data Processing, Babcock & Wilcox Co., Lynchburg, and Miss Carolyn Fisher, Randolph-Macon Woman's College, Lynchburg, for the statistical analysis of the data.

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Varied Opinions of Drug Usefulness

The (pharmaceutical) industry believes that since the practice of medicine is not yet an exact science and since the body cell is often unpredictable from body to body, even hour to hour, there should be proper recognition of the fact that differences of opinion in medicine over usefulness of product and technic will continue long after all of us here today are gone. The bedside approach to the sick person is still more dependable than slide rule application from a protected arm chair. Differences of opinion simply must be recognized, appreciated and accepted when such differences emanate from well informed and medically accepted sources. Otherwise, decision making for the majority of the sick may well cause death for the minority of the ill as legislators, regulatory officials, hospital administrators and welfare agencies attempt to apply formulas rather than reason to matters involving the use of new medicines.—Austin Smith, M.D., in *Experimental Medicine and Surgery*, 22: 2-3, (June/Sept.) 1964.

Internal Fistula Formation Secondary to Colon Malignancy

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Internal fistula formation is an unusual complication of colon malignancy but the prognosis is not necessarily poor if appropriate surgery is employed.

THIS REPORT was prompted by the case of a patient treated on the surgical ward service of the University of Virginia Hospital in February 1963.

A fifty-one year old white male laborer was admitted complaining of diarrhea, intermittent abdominal cramps and a thirty-pound weight loss during a period of six months. The diarrhea had been of increasing severity, always present after meals, frequently associated with a "waterfall" sound in the abdomen and his stools often had contained undigested food. His past history was negative. He had always enjoyed excellent health.

Physical examination was essentially negative except for an ill-defined mass in the abdomen, estimated at 4 cm. in size. It was not tender and was situated in the upper abdomen just to the right of the midline. Proctoscopic examination revealed no abnormality within the nine inches visualized.

The only abnormal laboratory findings related to a hypochromic microcytic anemia and occult blood in the stools.

Presented at the Annual Meeting of the Virginia Surgical Society held jointly with the South Carolina Surgical Society in Asheville, North Carolina, May 1964.

X-ray films of the urinary tract after intravenous urography appeared normal but films of the colon after a barium enema demonstrated an irregularity at the beginning of the transverse colon associated with what appeared to be passage of barium from the colon into small bowel, presumably the duodenum.

The diagnosis of a fistula between the colon and the duodenum seemed so definite that surgical treatment was advised and appropriate measures taken, including blood transfusions and preparation of the large bowel by cleansing and the use of antibiotics.

The operation served to verify the preoperative diagnosis. A malignant tumor involved the hepatic flexure of the colon and had extended into the adjacent second portion of duodenum and had formed a fistula between the two. No evidence of more distant extension of the tumor or of metastasis was found so it was judged that resection might offer a reasonable chance of cure. Therefore, the terminal ileum, the right half of the colon, and the involved anterior wall of the duodenum were resected in continuity as a block dissection. Continuity of the intestinal tract was restored by an ileo-transverse colon anastomosis and simple closure of the duodenal defect. Because the latter had somewhat compromised the lumen of the duodenum, a gastro-jejunostomy was made.

Postoperatively the patient did extremely well and was discharged after seven days. The pathology report confirmed an adenocarcinoma of the colon extending into the duodenum but without gross or microscopic evidence of metastasis in any of thirty-nine

lymph nodes identified. When last seen, fourteen months after operation, the patient was in excellent health and employed full-time.

In spite of the intimate relationship that the colon bears to other abdominal viscera, internal fistula secondary to a colon malignancy is relatively rare. The duodeno-colic fistula is the most common but, to-date, there are only sixty-eight reported cases in the English literature. Fistulas with other viscera are seen even less frequently and only isolated reports of them have been found.

The prevailing opinion of surgeons today, whether on the basis of published articles or personal experience, seems to be that colon malignancy when associated with fistula formation is a singular entity with a particularly foreboding prognosis. This has created an attitude of pessimism which may lead to inadequate or inappropriate therapy for such patients.

For this reason, we extended our survey to include the case records of 696 colon malignancies treated at the University of Virginia Hospital. We found five patients in whom colon malignancy had caused a fistula between the colon and other viscera. The facts relating to the five patients have been tabulated. They may be summarized briefly as follows: The symptoms and signs in all patients were basically those of a tumor of the colon with characteristic features of a fistula superimposed. The laboratory data related more to the patient's general state of health than to his primary lesion, and rarely offered more than suggestive evidence of the disease process. The single most informative study in evaluating these patients was the radiologic examination which, in all cases, made possible the definitive diagnosis. Films of an x-ray examination of the colon with a barium enema or films of a gastrointestinal x-ray examination after a barium meal usually demonstrated an entero-colic fistula.

Treatment in all cases was surgical. The nature and extent of the operation depended upon the location of the lesion. In cases 1 and 4, the fistula was between the duodenum and colon; in case 2, between the colon and the bladder; in case 3, between the colon and jejunum, and in case 5 between the colon and the stomach. In three patients, cases 2, 3, and 4, a composite resection was performed with curative intent, and we feel it is significant that in those cases microscopic study did not reveal any evidence of nodal involvement. In the remaining patients, cases 1 and 5, the resections were presumed to be palliative, but, nevertheless, were composite, en-bloc resections of all grossly involved tissue.

As to the results in the five patients presented; three are living, eight, sixteen and twenty-seven months respectively after operation. They are leading active, useful lives and are presumably free from tumor. One of the patients, case 2, lived eight years after operation and, subsequently, died of renal carcinoma, judged to be unrelated to his colon malignancy. The patient of case 1, in spite of the extent of his malignancy, lived seven months after operation. His death was due not primarily to his tumor, but to a multiplicity of other factors associated with advanced age.

In conclusion, internal fistula related to colon malignancy, even though relatively rare, should not be considered as a separate entity. It is a complication of the malignancy. Therefore, treatment of the condition should be directed primarily at the cancer. Review of five cases of colon malignancy with associated internal fistulas treated at the University of Virginia Hospital leads us to believe that perhaps the prognosis in this condition is not so foreboding as sometimes thought and, when feasible, wide, en-bloc resection should be employed.

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Clamp and Cautery Hemorrhoidectomy

Continued Use of an Old Technique

H. FAIRFAX CONQUEST, M.D.
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The clamp and cautery technique for hemorrhoidectomy is described and results in 384 cases reviewed. The author supports continued use of this old technique.

THE CLAMP AND CAUTERY TECHNIQUE for hemorrhoidectomy is considered by many to be old and outmoded, and there are few in this country today who continue to use it. Since this technique has been used with good results by the staff of the McGuire Clinic for over 30 years, it was felt to be of historical interest and perhaps clinical value to report our experience with this procedure.

A review was made of 384 cases done in St. Lukes Hospital from 1957 to 1962 utilizing this method. This series constitutes a consecutive group of patients without selection.

Technique

After the anus has been gradually dilated to four fingerbreadths, the hemorrhoid is grasped and tented up with clamps (Figs. 1 & 2). The skin about the base of the hemorrhoid is incised in a V-shaped fashion with the scalpel (Figs. 2 & 3), and the hemorrhoid dissected to expose the anal sphincter (Fig. 4). The hemorrhoid clamp is now applied across the base of the pedicle, clearing the anal sphincter (Fig. 5). Using the actual cautery

at medium heat, the hemorrhoidal tissue is excised so as to leave a 1- to 2-mm rim of tissue projecting through the clamp (Fig. 6). This step must be emphasized as it is most important to leave this rim of tissue. If the hemorrhoid is removed flush with the clamp, postoperative bleeding may ensue. The clamp is now removed slowly without

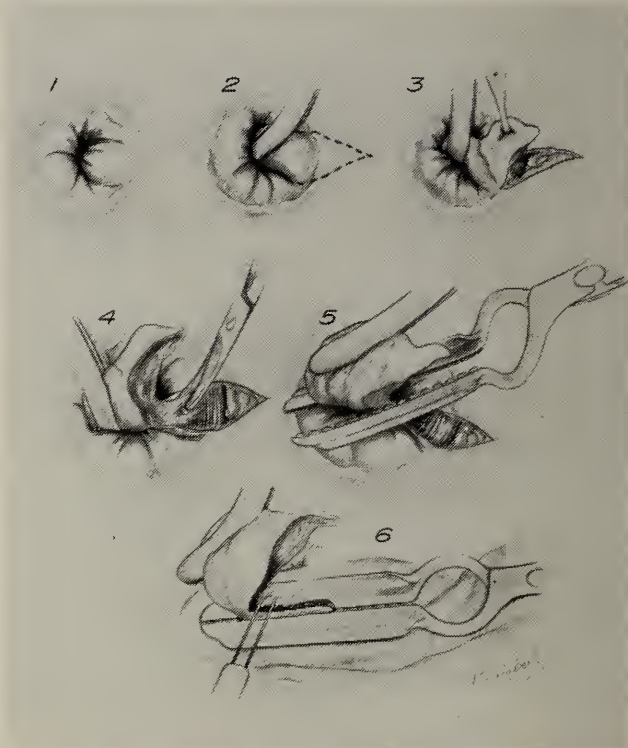


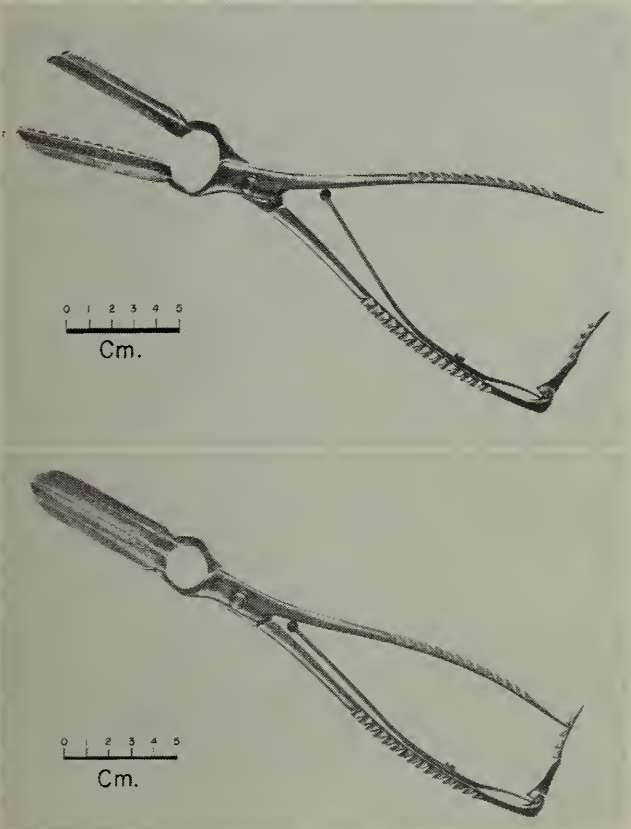
Fig. 1-6. Dissection is exaggerated in Fig. 4 to show the sphincter. See text for discussion.

rotation. A stitch ligature of two-0 chromic catgut may be used to control the occasional bleeder just distal to the sphincter.

Discussion

Three hundred and eight-four patients underwent hemorrhoidectomy at St. Lukes Hospital over the period from 1957 to 1962

utilizing the method just described. Six patients hemorrhaged postoperatively, necessitating return to the operating room for packing or ligation of the bleeding point—an incidence of 1.6 per cent. In each instance, it was felt the hemorrhoid had been removed too close to the clamp, not leaving the necessary hemostatic rim of tissue. Seven patients developed anal stenosis—an incidence of 1.8 per cent.



Cook Hemorrhoid Clamp—George P. Pilling & Son, Co.

Postoperative pain, a factor difficult to evaluate quantitatively and comparatively, has been no problem with this technique. In fact, we have been quite pleased with the relatively pain-free course of these patients, a feature attested to by floor nurses and patients familiar with this as well as the suture method for hemorrhoidectomy. In addition, each surgeon who has joined our staff in the past has been fairly prompt to convert to the technique of clamp and cautery after following the course of patients on the floor.

Certain advantages relating to the technique itself bear emphasis. The anal sphincter is exposed and preserved and is not crossed by a suture line. The sensitive anal skin is removed and the portion of the wound distal to the anal verge is left open for drainage. The procedure is easily done in the lithotomy position and requires no retractor within the anal canal. Because of the sheer simplicity and remarkable absence of postoperative pain, hemorrhoidectomy by this technique can be easily and safely performed, if indicated, at the time of other procedures of greater magnitude (Table I).

TABLE I

1. D & C and/or Caut. Cx.	22
2. A-P Repair	5
3. Hernia Repair	4
4. Varicose Vein Stripping	3
5. Abdominal Hysterectomy	3
6. Appendectomy (Elective)	3
7. Breast Biopsy	2
8. Minor Orthopedic Procedures	2
9. Radical Mastectomy	1
10. Pelvic Lap.	1
11. Sigmoid Polypectomy	1
12. T.U.R.	1
13. Simple Mastectomy	1
14. Thyroid	1
15. Vaginal Hysterectomy	1
Total	51
Procedures Concomitant With Hemorrhoidectomy in Our Series	

Summary

1. Clamp and cautery technique for hemorrhoidectomy has been reviewed.
2. 384 cases over a five-year period using this technique form the basis of this report. The incidence of postoperative hemorrhage was 1.6 per cent, and anal stenosis 1.8 per cent.
3. Because of its simplicity, low morbidity, and remarkable absence of pain, this technique, now in use for over 30 years, is felt to still have merit today.

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Medicine at the Crossroads

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The medical profession should and must make decisions regarding the type and availability of medical resources. These decisions must consider the quality of medical services, not just the quantity.

AMERICAN MEDICINE is at a crossroads, and a decision as to direction must be made, and without undue delay. Traditional concepts of value in their day are seriously questioned but, as James Baldwin recently stated, "tradition is often thought to have existed from the beginning" and further, "we cannot live without these traditions which have given us our identity and any suggestion of change produces panic." American medicine is presently in a state of panic, and as usually happens in such state of mind, reasoned judgment flies out of the window. To judge from statements frequently heard and read, that has happened.

Medicine which has fathered many scientific advances, and responded with energy and enthusiasm to all others aimed at the prevention and cure of illness, and the prolongation of productive life, has adopted organizational methods to improve efficiency in the practice of the profession, has failed signally to take note of educational, psychological, and sociological changes which have altered many aspects of American and world life and thought.

Medical practice and procedure *lives* and *works* in the atomic and space age, but too

often *thinks* in terms of the eighteenth century.

Public education and the information media have produced a degree of knowledge and a measure of medical sophistication previously lacking. We no longer deal with medically uninformed people, though, as usually happens when only half-knowledge is attained, the information is distorted, confused, and unreliable. But there *is* knowledge of procedure and medical advances, and of methods which tends to discredit the practitioner who seems not to be using the newer methods.

There is public confidence in the ability of medical science to accomplish the impossible, and that confidence has greatly altered the psychology of inevitability and hopelessness previously prevailing. That confidence, however, is lodged in the medical scientist working in and under the auspices of big medical centers, governmental research establishments and the large foundations. It is not placed in the private practitioner of medicine.

Even that degree of confidence placed in the private practitioner is more frequently in the machines he employs, which the patient regards as infallible, an attitude due often to the impression intentionally created by the doctor himself. It is rare that great confidence is placed in the ability and judgment of the local practicing physician.

Realization of the preceding noted attitude has resulted in efforts by physicians and general hospitals in outlying communities to adopt and apply methods and procedures which often cannot be properly applied and controlled without the resources of the large medical center. It almost calls to mind a statement made in the English periodical "Lancet" in the February 1886

issue, which in an article entitled "Quackery and the Public" states "There is a spirit of quackery abroad in the profession of physic, as well as that which prevails outside and hovers on its borders. We do not know which is the most obstructive of true progress and most baneful in its influence on the health of the population—the quackery that professes to cure by irregular means, or the quackery that professes to be able to accomplish by accepted methods that which is perfectly well known they are inadequate to achieve."

Not only is there extreme optimism and confidence in the ability of scientific medicine to conquer and cure disease, but there is tremendous change in the attitude toward poverty, want, and privation, and the conditions resulting therefrom, or at least most prevalent among those so handicapped. Typically Americans have responded to their very belated realization of existing social problems by organizing, and demanding legislation to correct the conditions. The organizations and the legislative remedies have usually been evolved with inadequate knowledge of the causative factors, and the piecemeal procedures inaugurated have done no more than to introduce palliative measures of limited extent which promise no more than a degree of amelioration and that of a temporary nature. But there *has* developed a real and deep social consciousness.

The medical profession, while sharing the social consciousness, has done, or even thought little on the problem, and proceeded rather obliviously along the line of traditional patterns, with frequent and even thoughtless resistance to any suggested changes.

There seems to be little question that the system of the private practice of medicine by the individual practitioner on a fee for service basis cannot meet the demands or the needs of the indigent or semi-indigent segment of our population. If we are to accept our social obligation to those underprivileged people; if we are to provide them with the continuous, careful and extensive

medical care needed to improve their health, maintain their capacity for self-support, prevent disease and the spread of disease to other segments of the population, and render them capable of participating in efforts to improve their status in society, we must provide public, free, and part-pay resources and facilities for complete medical care. Since their economic situation is such that they cannot, or will not, spend their own limited resources for purposes often neither appreciated nor understood by them, the effort must be community wide, and supported financially by public funds.

Entirely too prevalent, though perhaps unavoidable in our presently organized society, is the practice of medicine on an *emergency* basis. When the patient has knowledge or suspicion that "something is wrong" with him, he calls or visits the doctor. When he feels that he has recovered, or when he has been told that the treatment for that particular complaint is completed, he tells the doctor, or is told, that medical services are no longer required, and perhaps in dissatisfaction, goes to another doctor. The doctor cannot ethically insist on further treatment or care.

This system is perhaps not too bad when dealing with the better informed, more intelligent, approachable, and financially capable patient. But, the group who are economically and socially handicapped, receive no further medical services, and health examinations, correction of defects, rehabilitation, even immunization is not received, because of the cost involved, perhaps the disinterest of the doctor, or the lack of information or understanding of the patient. So the chronic condition rapidly progresses to disability, becoming permanent and total, and the patient and his family become a public charge.

We are not justified in continuing to spend always insufficient public funds for emergency medical services only, and neglecting the useful and continuous care and attention which can prevent or delay the

progress to irremedial disability, but that is what we are generally doing.

Judging from statements frequently made and from articles published in the medical literature, the medical profession has not the slightest idea that the preceding is true. Proudly the literature boasts of new, even miraculous remedies and procedures. Credit is claimed for the extension of handicapped life for an additional few months or even for years. The correction of a rarely encountered defect is acclaimed. Preserving existence as a vegetable for years is thought to be a marvelous accomplishment, all of which is noteworthy and should evoke pride.

But, what are the basic and real objectives of the medical profession? *Saving life* is splendid, but saving useless life is only academic and a demonstration of professional competence. It serves no useful social objective. *Prevention of an inherited disease or deformity* is an accomplishment to be desired. So doing will protect society from the burden of care of a handicapped person, and permit the person to live and enjoy a useful and productive life. *Prevention of disease and cure of existing disease* is the primary objective of the medical profession. *Rehabilitation* serves useful and productive purposes. *Treatment of a chronic disease to prevent progress and to maintain useful function* is important. *To relieve suffering is humanitarian.*

Saving useful life, prevention of congenital or inherited defects, prevention and cure of disease, rehabilitation to a useful capacity, prevention of the otherwise inevitable progress to chronic invalidism and ultimate death of the chronically ill person, and the relief of pain and suffering, are all legitimate and desirable objectives of the practicing medical profession. None are served by a preoccupation with the preservation of a miserable existence and are very rarely served by the spectacular and widely acclaimed dramatic accomplishments of medical science.

Seldom are the real and logical objectives of medical practice served by the presently

existing patterns of what I have chosen to call "emergency medical practice".

No criticism is intended of the medical scientist and researcher who concentrates on the bizarre, the rare, the unusual. Such efforts are necessary for the advancement of medical science and practice. But when the practicing physician similarly concentrates his interest and attention on the very small percentage of rare and unusual diseases or deformities, to the relative neglect of the commonplace day to day illnesses he encounters, he is deplorably failing to accept his responsibilities and is defeating the objectives of the medical profession. He is not utilizing existing medical knowledge and resources to prevent or limit progress to disability or death, and consequently he is adding to the social and financial problems which must be faced by public health and welfare, to support and give care to a constantly increasing social burden on the community.

To affect drastic changes involves a *realization* of the problem and the need, *education* of the leaders, the public, the medical profession, *planning* in depth to implement a changed, continuous, constructive program, and *financing* on local, state and national levels, with major emphasis on community responsibility, but with realistic appreciation of the indubitable fact that the broad need extends well beyond the borders of the local community.

It is a well appreciated fact that the practice of medicine is not a sharply divided function between those able to pay and those who are not and require assistance to meet medical expenses. Chronic as well as acute infections have impact on the entire population. All are affected by the risks and by the responsibility. Infection may spread from one to another of the population, but the responsibility of care for the disabled equally involves widespread concern and financial burden.

Probably the most difficult part of the problem is *education*. Sigerist, speaking in another context, pointed out "that society's

attitude is determined by the current social and economic structure, the valuation that society places on health and disease, the tasks assigned to its physicians, and the technology available to physicians at that time" (and place). What is regarded as a serious health problem in one society may be regarded as normal in another, and the acceptance of health innovations depends greatly upon the culture's recognition of the innovation as a practical one in meeting a recognized health need. Even the meaning of illness varies in different cultures. All of which socio-cultural factors must be taken into account to avoid, or minimize, the production of *suspicion* of new things, *fatalistic acceptance* of the existing conditions, *conflict* with religious values, and a *dysfunctional social structure*. While Sigerist was referring to health problems in the underdeveloped areas of the world, his comments are also applicable to varying social values within our own country.

Primary in educational efforts is the necessity of accepting a constructive definition of health. The old concept of "absence of disease" is inadequate. The World Health definition of health as "the attainment of a full sense of personal vigor and mental well-being, as well as constructive relationships with others, in an environment productive of longevity and happiness", or some similar statement is more meaningful, as well as more practical, if we consider a healthy person to be one able to actively and productively participate as a contributing member of his social group.

Man is not a static animal. He craves change, movement, experiment. Utopias can never satisfy because they are static, freezing a then satisfactory pattern of life in a frame like a picture.

Since man is also the only animal who has developed the capacity to think and plan, and to project his thoughts and plans into the future, he is restless and never satisfied. Because he is never satisfied he strives to improve his lot, increase his comforts, create

easier and more efficient methods of performance.

His philosophy and his ethics, his sense of responsibility and obligation, seldom, if ever, keep pace with his creativeness and his inventiveness. So as he creates, he produces problems which he is unready, even unwilling, to face and solve.

That is the history of man, and it is the function of the social sciences to rescue mankind from the consequences of his overwhelming impetus to change, alter, improve, and invent.

The philosophy of medicine has tended to be static. Scientific advances, new methods and concepts, advanced procedures, new drugs, have been enthusiastically embraced and applied to treatment of the specific disease in the individual patient. But the concept of man as a social animal in a community of other social animals seldom enters into the thinking of the doctor who continues to treat the patient as an afflicted individual.

The inability to "see the trees for the forest", or the reverse, is a very common failing. Absorption in day to day activities, limited time, constant demands, physical exhaustion, and, equally important, mental exhaustion, generally do not permit thoughtful analysis, or philosophic contemplation of the task, the objectives, or even of the results. In no area of work and in no profession is that more true than in the practice of medicine.

Since leaving the active practice of medicine to devote my efforts to administrative responsibility in medical and related fields, I have, both through inclination and necessity, thought and observed extensively and read widely in the field of medical sociology and of medical relationships. I do not like much that I see.

Too much of medical practice and teaching is devoted to the bizarre, the unusual, the rarely encountered condition. Specialization has assumed an exaggerated importance, become a status symbol, and the ultimate aim of most medical students. The

family physician has almost disappeared and his influence become progressively less.

The "sick person" is forgotten as the "disease" affecting him is studied and treated. Sometimes I wonder if the mechanic, working with the malfunctioning machine, is not more conscious of the use and function for which the machine was designed and built, than is the doctor's concept of his patient as a social being with responsibilities and obligations to his community of fellows.

The medical profession tends to emphasize the high standards of available medical care, the accomplishments of medical research and practice, the tremendous advances in mortality reduction, the lengthened life span, the promising investigations currently in progress, and the growing coverage of privately operated medical and hospital insurance plans. All of which are reasons for justifiable pride. But little is said of the disorganized state of medical practice, the lack of communication between practitioners of different specialties, the excessive hospitalization, the increasingly poor status of the general practitioner or the family physician, the lack of continuous observation of the patient, and the emphasis on emergency services, rather than coordinated health planning.

A pertinent illustration is the emphasis on periodic pelvic examination of women, which the obstetrician or gynecologist leads the patient to consider an adequate and sufficient annual physical examination. I believe the various special examinations or tests, such as the cancer detection clinics, the blood pressure and urine testing, the blood sugar determinations, the survey chest x-ray for tuberculosis detection, and so many other limited tests or examinations, including the electrocardiogram, which are stressed by lay health organizations and specialists with limited viewpoints, can be similarly criticized. The public is encouraged and tempted to consider the very inadequate examination as sufficient for health protection.

We train and turn out to practice more specialists every day. They are so numerous

now that few of them could make a decent living if their practices were limited to patients actually in need of their specially trained talents.

As the ratio of specialist to general practitioner, or generalist as many now prefer, increases, there is an alarmingly serious shortage of the well-trained, capable, conscientious general physician, who is willing and able to make a careful, complete examination, take an accurate comprehensive history, recognize those deviations from the normal not understood by him which should be referred to the appropriate specialist for care, and to give advice to his patient. Advice which if followed should lead to a better, longer, more profitable and productive life. That is the real function of the doctor (teacher) and is what today's medical practice so seriously lacks, and what promises to be more seriously lacking tomorrow.

Dr. Welch, recent president of the American Medical Association, stated in his inaugural address that the American physician must continue to be "standing strong and firm with a heart and a *conscience tuned to the public need*, with a respect for the rights and privileges of the individual, and with an abiding faith in our free competitive system of medical practice". The House of Delegates, in the same session, adopted in a resolution the following, "the imperative need (is) for the medical profession to *assume responsibility for the quality, continuity, and availability of professional services, and for coordination of these services with the other essential supportive aspects of health care*".

It is a question how well the medical profession of America can exert their influence and perform those tasks as the profession progressively becomes more specialized, with fewer and fewer family physicians or general practitioners available to give broad services and advice to those who consult them. It is but a fantasy to presume that the uninformed public can coordinate and correlate medical information so distorted and

confused as it is bound to be when received from a variety of specialists. American medicine is not only overspecialized within the profession, but the value of specialization has been vastly oversold to the public.

The most capable eye specialist in the world is but a tyro when the complaints have a gastrointestinal origin. Self diagnosis, and self selection of the medical attendant, without good, capable, and conscientious medical advice, does not promote good medicine, but almost guarantees poor medical care.

The Health Information Foundation bulletin of May-June 1964 reveals startling information concerning the changed pattern of American medical practice. Only 63% of American physicians are in private practice today, although there are still 127.5 physicians per 100,000 of our civilian population. The proportion has declined from 86% in 1931, and the private practice ratio from 108.4 in 1931 to 93 per 100,000 in 1964. In the same period there has been a 145% increase in full time hospital staff, and a 576% increase in hospital resident and intern staff. Including residents and interns hospital medical staffs have increased from 6.6% to 19.3% of all active non-federal physicians between 1931 and 1964. This increase primarily represents the increasing specialization, and training for specialization, although there are small increases in research, administrative, laboratory, public health, and federal activities. The American medical profession is still largely in private practice, but increasingly as specialists. Fewer and fewer are available to serve the needs as general practitioners or family physicians. Even those now in private practice include that very large proportion who entirely or largely limit their practices to a specialty. It is late but I hope not too late to think seriously about the problem.

The voting public will not much longer tolerate a refusal to apply to the solution modern thought and up-to-date ideas. It is no more unreasonable to expect the automobile industry to return to the handcraft

methods of automobile manufacture than to expect the opinion makers and their supporters, the voting public, to much longer permit the medical profession to continue blithely to practice the profession of medicine as our grandfathers did. We have been saved by discoveries of miracle drugs, priceless immunization procedures, widely publicized organ transplants, surgery of a boldness hardly imaginable a few years ago; a succession of dramatic events widely publicized, which have so confused the public that they have lost sight of or ignored the very inequitable distribution and availability of needed and usefully productive medical care.

That will not indefinitely continue and many thoughtful observers, within and without the medical profession are thinking seriously on the problem. The medical fraternity itself is generally too preoccupied with the problems of their individual practices, "keeping up" with the day to day advances in medical science and practice, and a justified fear of bureaucratic control to give the problem the serious dispassionate consideration it requires. Lacking sociologic, anthropologic, and psychologic background and training they are frustrated, and while many are complacent, others are almost in a state of panic.

Something must give, and it is to be hoped that the medical profession will forget their outworn traditions, and even certain aspects of professional ethics, to view the problem with open minds and a concern for people as people. But that I mean concern for people with problems, not as medical curiosities—people who need help to perform efficiently in an increasingly complicated world, who can be helped by a continuing, supervised, planned program of medical care and advice to live, not just longer, but better.

There are many questions which pose themselves and must be answered. Among them are several rather basic questions relating to the operating philosophy of the prac-

tice of medicine which the profession itself must answer.

Three related questions are seemingly quite applicable at this time.

1. Does the medical profession advocate the abolishment of the traditional policy of giving free medical services to indigent and near indigent patients?

2. Does the medical profession contend that medical services should be provided by public agencies without charge to indigents and the near indigent patients at public expense, but that all purveyors of free services, medical as well as others, be paid for their services, out of tax derived monies equitably proportioned throughout the entire tax paying population? In other words that the medical profession shares in the costs of free services only to the extent that they are tax payers, paying their proportionate share.

3. Does the medical profession, as a consequence of only proportionally, through taxation, paying for free medical services to needy recipients, willingly abrogate the right to special privilege traditionally granted to them because of the donation of free services to the needy?

If answered affirmatively the questions posed above would very drastically change the philosophy under which the profession has practiced for long and generally appreciated periods. No one can eat his cake and have it. No more can any group, and there is a noticeably growing sentiment that contends that the medical profession should be paid for services rendered as are all other purveyors of services to the needy. It is a serious question and the decision must be made, after free, frank, and serious thought, and it must be made soon.

Dr. Iago Goldston recently made an applicable statement when he observed that "We are facing a changed and changing world, and the change is radical and qualitative, and not merely quantitative in nature."

To say that we are providing medical care, when we are only making medical services available on an emergency and restricted

basis, with no real study of the patient and carefully evolved plan for continued care, is simply untrue and we are fooling ourselves and taking advantage of the credulity of the uninformed public. To recall Dr. Goldston's statement, we are thinking in terms of "quantity" not "quality". Quantity care will quiet the demands of the unknowing public, but will not assist the patient to a better, longer, and more productive life, and certainly will not satisfy the serious-minded, conscientious doctor of medicine. I am led by experience to conclude that only "quantity" care on an "emergency" basis will be given or available under the presently existing system of medical services to the needy. The exception to that statement will be and presently is, hospital care in the better conducted, organized, and staffed hospitals, but even that service, while the "quality" is good, is almost entirely on an "emergency" basis without follow-up of the patient or continued observation.

What is the answer? Or is there an answer? Whatever the solution finally reached may be I sincerely hope that it will be guided by the best judgment of the real and thoughtful leaders of medicine, by informed political scientists, by sociologists, by economists, and not dictated and decided by politicians motivated by political pressure groups. I would hope that real and open-minded study precede decision-making, that old practices, customs, and traditions be abolished if no longer found applicable, that community responsibility be accepted as basic, and that primacy be given to needed, useful, and productive services, rather than to the spectacular and the dramatic. What I am trying to say may be otherwise expressed as the hope that concentrated effort be devoted to treatment of the diseased *person*, not just to the disease as an entity, and that the person be remembered as a member of a society in which he lives, works, operates, cooperates, and participates as a responsible member.

In summary, I have asserted that the American medical profession should, and

must shortly, make decisions regarding the type and availability of medical resources, especially for those unable to pay, and that those decisions must consider the quality of medical services, not just the quantity.

I have emphasized that the decision should be primarily directed to acceptance of community responsibility, but with full regard to the realization that the concerns are wider than the local community and both state and federal governments must share in planning and financial responsibility.

I have stressed the danger of over-specialization and the need for more capable and well-trained general practitioners or family physicians.

I have contended that there is insufficient stress placed on the responsibility of the medical profession to consider the patient, not just as an individual with *physical* prob-

lems, but as an active, participating, contributing member of a social group, who has responsibilities and obligations, and who is a parasite in and on his social group when he cannot or will not meet his obligations and accept his responsibilities.

Especially I am maintaining that too much medical practice is "emergency medicine", attending only to the immediate need with neglect of the all-important education and training, and the continued observation, which can improve health, prevent or limit disability, and promote not just longer life but better life.

In other words I am asking that the two gods of medicine, Hygeia and Esculapius, be accorded equal status and corresponding worship by our profession.

701 Hollins Street
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Handicapped Infants Helped.

Some infants born with hydrocephalus and a congenitally deformed spinal cord have the potential for a reasonably satisfactory existence if given the most advanced of care. A report on 50 infants so handicapped from the Vanderbilt Birth Defects Clinical Study Center, Vanderbilt University School of Medicine, Nashville, Tenn., appears in the January 4th Journal of the American Medical Association.

These patients receive intensive treatment by a team which includes a neurosurgeon, pediatrician, orthopedist, urologist and ancillary aid.

Hydrocephalus, in which cerebrospinal fluid is prevented from escaping normally into the blood stream, can be relieved by implanting a tube in the brain cavity to shunt the fluid from the brain to a vein near the heart.

The spinal cord defect, termed myelomeningocele, is a bulge in part of the cord and its covering membrane due to defective closure of the vertebrae. The condition can be corrected by closing the defect in the vertebrae.

Regular developmental evaluation is provided. Social service, detailed instructions in home care, physical therapy, speech and hearing evaluation, and other resources of the medical center also are provided.

Detailed information about the pregnancy and its complications, drugs, x-rays, exposure to other radiation, familial incidence, reproductive history, and parental age has not provided any "good clues" as to the cause of these birth defects.

Authors of the report were Robert E. Merrill, M.D., Thomas McCutchen, M.D., William F. Meacham, M.D., and Theresa Carter.

"BUT FOR THE GRACE OF GOD"

If we but take inventory
Fearless, searching, honest story,
The thought that towers ever high:
"But for the Grace of God stand I."

There came a tide—we rode the flood.
We had the chance, our luck was good.
Give God the praise! No credit ours,
If we still hide in "ivory towers".

For if at a propitious time
We had our break in sunny clime,
Be thankful. Yes, ever grateful,
Recognized divinely fateful.

So who is he who dares to say,
"For others, yes, I need to pray;
I thank Thee, Lord, that I am not
As other men, to be forgot!"

Where then disgrace, stigma, the shame?
Who dares to say, and in whose name?
Rather credit to him his due
Who craves the drink, but thinks it through.

Full well he knows one drink is but
A "whetter" for a wetter rut.
Twenty-four hours is just a day;
A sober milestone if A A!

So if our friend drops near the gutter
And seems a ship without a rudder,
Our thoughts should tower ever high:
"But for the Grace of God stand I."

Regard it thus, and think it so,
For in this way the mind can grow,
Maturity may well be nigh,
"But for the Grace of God stand I."

Resentments go when love holds sway,
Temperaments, too, level away.
And even-plane serenity
Withstands the blasts of self-pity.

For now we see through glass dimly,
But when we try even slimly,
Revelation will come to pass,
Appraisal true of "man in glass".

Our attitude: firm sympathy;
For wretched people, empathy,
Whose shell *from inside* must be broken,
A full-fledged change—not just a token.

Do not despair of any man,
For what you can not do, God can!
Yes, God as I understand Him
Can unmistakably brand him.

For many men have tried and tried
'Ere breaking bonds of inverse pride.
The realm of egocentricity
Is charged with electricity.

Consider me with compassion,
Love character above fashion
Remember not to judge a guy:
"But for the Grace of God stand I."

Give us the Grace of fuller life
Lifted above the din and strife.
Accept it then with contrite heart,
By Grace of God we get fresh start.

What creed does your life seek, and mine?
We know we have the Spark Divine;
The thought should tower ever high,
"But for the Grace of God stand I."

—WILLIAM S. SLOAN, M.D.

416 Medical Arts Building
Petersburg, Virginia

Current Currents

89th CONGRESS: The new Congress has a new look, and judging from its actions thus far, it means to move quickly on several key fronts. The Senate has seated 68 Democrats and 32 Republicans (compared with 66 Democrats and 34 Republicans in the 88th), and the House has seated 295 Democrats and 140 Republicans (compared with 258 Democrats and 176 Republicans in the 88th). Senator Russell B. Long, (D., La.) has succeeded Vice-President Humphrey as Senate Majority Whip, and Representative Gerald Ford (R., Mich.) unseated Congressman Charles Halleck (R., Ind.) as House Minority Leader.

During the very first day of the 89th Congress, 1746 bills were introduced. In addition to the new King-Anderson bills, there are many others of interest to medicine. These include a bill providing for the control of barbiturates, amphetamines, and other psychotoxic drugs, the Bow bill which provides an alternative to King-Anderson, and a proposed amendment to the present Keogh law.

KING-ANDERSON: The very first bills to be introduced in the 89th Congress were H. R. 1 and S. 1—the new King-Anderson proposals. The new bill is patterned after the Social Security Amendments of 1964—which died in conference committee during the last days of the 88th Congress. The bill would provide a 7% increase in the cash payments to recipients of Social Security and a hospitalization program which includes the following: (1) 60 days of hospital care with a one-day deductible paid by patient; (2) 60 days of post-hospital care in an approved facility; and (3) 240 home-health visits a year; and (4) certain outpatient hospital diagnostic services.

The program would be financed by an increase in the Social Security tax on employer and employee to 4.25% in 1966; 5% in 1968-70; and 5.2% in 1971 and thereafter. The wage base on which the tax is paid would also be increased from the present \$4,800 to \$5,600. Senator Anderson and Representative King have called for a separate trust fund within the Social Security system to finance the hospital benefits.

Other provisions of the new bill would (1) bring physicians under Social Security; (2) authorize the formation of an association of private insurance carriers to sell, on a non-profit basis, approved policies covering health costs not covered by the government; (3) exempt participating private insurance companies from antitrust laws; and (4) authorize federal funds to be paid to states for aid of the needy aged in mental or tuberculosis institutions.

WORDS TO REMEMBER: The Bulletin of the Norfolk County Medical Society recently published a quotation by Thomas Jefferson which merits repeating. Mr. Jefferson said: "Yes we did produce a near perfect Republic. But will they keep it, or will they, in the enjoyment of plenty, lose the memory of freedom. Material abundance without character is the surest way to destruction."

WAYS AND MEANS: For the past 25 years, the House Ways and Means Committee has had 15 seats allotted to the majority party and 10 seats to the minority. The ratio has now been changed to 17 seats for the majority and 8 for the minority. With the exception of Congressman Bass of Tennessee, who resigned and successfully ran for the Senate, all Democrats on the Committee were re-elected and will remain. Of the 10 Committee Republicans, Knox of Michigan, Alger of Texas and Derounian of New York were defeated in their bids for re-election.

Under the new ratio, Republican leadership will appoint one new member to the Committee. Democrats have already named their new members: Representatives Phil Landrum of Georgia, Richard Fulton of Tennessee and Charles Vanik of Ohio. Fulton and Vanik are already on record as favoring the King-Anderson proposal.

RULES CHANGES: The House of Representatives has, by a vote of 244-201, approved changes in its rules which would (1) permit the House, by a majority vote, to call up bills that have been awaiting clearance in the Rules Committee for 21 days or longer; (2) allow the House, by a majority vote, to send differing bills that have passed both Houses to Conference Committee; and (3) eliminate the right of a single member to stop all action for a day on a bill at the last stage of passage by demanding a printed copy incorporating all amendments.

CLINICAL ASSEMBLY: The Northern Virginia Clinical Assembly will be held this year on Wednesday, March 17, at the Marriott Twin Bridges Motor Hotel in Alexandria. The Assembly is sponsored by the three medical societies which comprise the Northern Virginia Medical Council and all members of The Medical Society of Virginia are cordially invited to attend. The program will be presented by several members of the medical staff of Walter Reed General Hospital and is acceptable for six hours of continuation study credit by the American Academy of General Practice. Registration begins at 8:30 A.M. and the Assembly will conclude at approximately 4:00 P.M. Lunch will be available.

PHYSICIANS DRAFT: Selective Service has been requested by the Department of Defense to make available 851 physicians for active duty this summer. This call has been made necessary by the insufficient number of 1964 graduates volunteering for active duty on completion of internship. Of those to be called, 550 are slated for the Army, 176 for the Navy and 125 for Air Force.

DID YOU KNOW? There are 276,156 physicians in the United States, of which 69,096, or 25 per cent of the total, are general practitioners.

Ice cream manufacturers in this country use almost 10 billion pounds of cream and milk solids every year.

Diagnostic Laboratory Medicine

Emergency Transfusion Therapy

In the usual hospital situation mutual co-operation between the clinician and the blood bank staff produces a well oiled machine which provides many compatible units of blood for many patients during the course of a routine day. And yet, when the partially exsanguinated patient arrives in the emergency room this machine frequently coughs and grinds to a halt. The result is an anxious blood bank staff, an anxious physician, and perhaps the loss of a potentially salvageable patient.

The main reasons for the breakdown and loss of time during the emergency situation are threefold:

1. The lack of fundamental knowledge or experience on the part of the clinician or blood bank technician and failure to assume control of the situation because of this lack;
2. Failure of adequate preparation for the emergency situation on the part of the blood bank staff (i.e. inadequate stores of blood especially low titered O Negative blood or inadequate instructions for the technician to follow in the emergency);
3. Breakdown in communications between the clinician in the emergency room or elsewhere and the technician in the blood bank (most frequently due to transmission of the message (s) through several intermediaries). Fortunately the latter failure is most prevalent in the larger institution which is usually better prepared to meet the situation.

This short article is an attempt to explain some of the delays incurred in obtaining emergency blood and to help the clinician to some understanding of the blood bank operation, so that he may fill the needs of the patient for blood, on the ward, in sur-

gery or in the emergency room, without endangering the patient's life with undue delays.

The patient's safety depends upon accurate grouping and typing of both patient and donor bloods, proper cross-matching techniques, and also upon proper identification and labeling procedures and all means possible to avoid human errors.

It is difficult to generalize about grouping, typing and cross-matching procedures and make these generalizations applicable to many different blood banks. However, present day practice requires ABO grouping and Rh typing of patients and donors and, usually, the use of donor bloods of like group and type as the patient. The most frequent causes of incompatible transfusion reactions are errors concerning these two blood group systems, due either to technical or clerical error. Other factors may cause incompatibility, but it is not always practical to type for these. Because of this, and the occurrence of antibodies to these factors, the blood bank must have sensitive and accurate cross-match procedures to detect incompatibility.

The routine cross-match involves a major (patient serum and donor cells) side and a minor (patient cells and donor serum) side. Some blood banks omit the minor side of the cross-match, using instead screening of donor serums with cells of group O which contain most known antigenic factors. While this procedure is quite effective it does not detect errors in ABO grouping which will appear in the minor cross-match. In both sides of the cross-match, the cells and serum are reacted under a variety of conditions, since the various antibodies have a variety of optimal reaction characteristics.

One conventional cross-match method requires two tubes, "a" (saline) and "b" (high protein medium), for each side of the cross-match. Both tubes are reacted at room temperature for three minutes, centrifuged and

read for agglutination. Then tube "a" is incubated at room temperature and tube "b" at 37°C for thirty minutes. Both tubes are again centrifuged and read for agglutination and/or hemolysis. Then tube "b" is converted to an indirect Coombs reaction. This cross-match procedure will detect virtually all antibodies known to be responsible for hemolytic transfusion reactions.

Thus it is seen that, including the 15-20 minutes necessary for the specimen to clot, the routine complete cross-match requires an unshrinkable 60 minutes before compatible blood can be released. If complications (i.e. contamination, coagulation defect, abnormal protein, immune antibody or auto-antibody) are encountered, several hours or even days may be required to effect a compatible cross-match.

Contamination, especially in samples from the emergency room, is a frequent complication. This occurs when, rather than being drawn by the usual method, the sample is taken from a bleeding wound, visceral pool, etc. Occasionally administered dextran complicates typing and cross-matching. The request for a new sample is the first step in solving a problem and this request should alert the physician to a possible unusual delay.

A coagulation defect is also a frequent complication in the patient with an urgent blood need; in fact, such a defect may be the underlying cause. In this event the sample will not clot and will require the addition of thrombin or separation of cells and plasma by centrifugation and washing the cells for processing. Usually the physician will be unaware of the defect and should be alerted by the blood bank staff. In such a case the freshest blood available should be administered due to the lability of Factors V (Proaccelerin) and VIII (Antihemophilic globulin) in stored blood.

Auto-antibodies (e.g. cold agglutinins, paroxysmal cold hemoglobinuria, leukemias and lymphomas, collagen diseases and miscellaneous conditions such as liver disease, ovarian tumors and sarcoidosis) complicate

the handling of bloods by making the cross-match appear incompatible, and occasionally, may interfere with typing of the sample, especially if an abnormal protein is present as in multiple myeloma.

Immune antibodies occur only due to previous sensitization and ordinarily do not present a problem except in those patients who have received a blood transfusion or injection previously, or in multiparous women. If donor bloods are routinely screened for atypical antibodies they do not present a problem in the urgent situation. However, if the patient has such an antibody, a compatible cross-match will be obtained only by chance, or by identification of the offending antibody and the selection of donor blood lacking the corresponding antigen. Either procedure can be quite time consuming.

In the emergency situation the needs of the patient may dictate compromises with standard procedures. This approach should be reserved for life-saving use due to the possible presence of atypical antibodies in the patient's serum. Conversely, due to the rarity of these antibodies, blood should not be withheld because of fear of them.

The technician should be aware of the shortcuts which can be used in emergencies. The physician also must be familiar with these and must take the responsibility for the administration of blood which has not been completely cross-matched.

Table I is an outline for procedures for emergency transfusions, arbitrarily divided into four degrees of urgency, based upon the time available to obtain blood. This may be easily modified to fit into the procedures of most blood banks.

In the first situation shown in Table I the transfusion must be given promptly and there is not time to provide blood of the same group and Rh type as the patient, which naturally would be better. Low titer O Negative blood should be available in the blood bank at all times. In the event it is not available, then any O Negative blood (so-

TABLE I
MINIMAL PROCEDURES FOR EMERGENCY TRANSFUSIONS

<i>Time Available</i>	<i>Minimal Procedures</i>
None	<ol style="list-style-type: none"> 1. Try to obtain from the patient, before transfusion, a sample for subsequent testing. 2. Use group O (low titer), Rh Negative, emergency release blood.
15 Minutes	<ol style="list-style-type: none"> 1. Group and Rh type patient's sample. 2. Use blood of the same group and Rh type as the patient (group and type specific). (If the patient's Rh type is doubtful, use group specific Rh Negative blood. If patient's blood group is doubtful, use low titer O Negative emergency release-blood).
30 Minutes	<ol style="list-style-type: none"> 1. Group and Rh type the patient sample. 2. Do short, 15 minute, incubation of saline (20°C) and albumin (37°C) tubes of cross-match procedure. Convert "albumin" tube (s) to indirect Coombs reaction. 3. Use blood compatible by above technique. 4. Complete cross-match in conventional manner even though blood has already been released.
60 Minutes	<ol style="list-style-type: none"> 1. Routine grouping, typing and cross-matching.

called "universal donor") may be used. In an adult, if 3-4 units of O Negative are administered, group O blood must be continued regardless of the patient's group due to the attained level of Anti-A and Anti-B in the patient's plasma. If, after the administration of O Negative blood, the patient is found to be Rh Positive then O Positive blood may be used.

The second situation provides for blood of the same group and type as the patient, but no time to perform compatibility testing. This eliminates the difficulties of later changing from one group to another, but does not rule out the presence of immune antibodies in the patient's serum.

In the third situation, 30 minutes is available before transfusion must be started. The compatibility testing used will detect most antibodies.

The fourth situation assumes one hour is available. This is sufficient time for grouping, typing and complete cross-matching, providing one or more of the aforementioned complications is not encountered.

In summary, emergency situations require compromises with standard procedures. With some knowledge of blood banking operations the physician can assume the responsibility for taking a "shortcut" and order exactly the procedures required by the situation. The blood bank should have an established routine for emergency blood release and an adequate supply of low titer O Negative blood to meet most emergencies. The most definitive techniques, that time permits, should always be used. It is not wise to rely entirely on the rarity of certain antibodies, since the patient may be the one in 30,000 whose serum contains Anti-Jk^a, in which case statistics are of no value to the patient.

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MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Mental Health Center and Mental Retardation Facility Construction Under Public Law 88-164

In 1963 the 88th Congress of the United States enacted Public Law 88-164 entitled "The Mental Retardation Facilities and Community Mental Health Centers Construction Act." The purpose of the law is to provide assistance in combating mental retardation. Grants will be provided for the construction of research centers, for facilities for the mentally retarded and for construction of community mental health centers.

Beginning with the fiscal year 1964, the Act authorized an appropriation of \$10,000,000 for construction of facilities for the mentally retarded and \$35,000,000 for construction of Community Mental Health Centers. Virginia's share of these funds is approximately \$200,000 for Mental Retardation Facilities and \$850,000 for Community Mental Health Centers.

In order for Virginia to participate in the Federal grant-in-aid funds provided by Public Law 88-164, two things are necessary: (1) A single state agency must be designated as the sole agency for the administration of the construction program; (2) A State Advisory Council must be designated to advise and counsel with the State Health Commissioner on problems pertaining to the survey and construction program.

To meet these requirements, the Governor designated the State Health Department as the responsible State Agency and the Virginia General Assembly in January 1964 amended State legislation to provide for a State Advisory Council. The Council now has this responsibility under the provisions

of a similar program for hospital construction, the Hill-Burton Act.

Basically, the Mental Retardation and Mental Health Center Act is a facility planning program. To be eligible for participation in the grant-in-aid program, a project applicant—in addition to being a non-profit association or public agency—must be eligible for assistance under a priority system established in the State Plan for construction of facilities. The construction for which application is made, must be programmed within the State Plan. The project applicant also must meet various financial requirements and certain construction regulations.

One of the fundamental concepts of the program is to provide assistance to those areas having the greatest need for facilities. This is necessary since the monies available through Federal aid together with local matching funds will build only a portion of the needed facilities. The priority system will give certain medical service areas first choice of grant-in-aid funds. It does not mean, however, that unless used by high priority areas, the funds will be returned to the Federal government. All facilities programmed for construction in Virginia will be needed. If those areas of greatest need do not apply for funds, then those with the next highest priority will be eligible for assistance.

In administering the Mental Retardation and Community Mental Health Center Construction Program, the State Health Department assumes certain definite responsibilities. It must certify to the Surgeon General of the Public Health Service that all requirements will be met. To meet these responsibilities, the Bureau of Medical and Nursing Facilities Services will be working during the coming year on developing the

State Plan for construction of these facilities. This will include:

(1) Coordinating and incorporation of data and recommendations of existing study groups and other State agencies concerned with the problems of mental retardation and mental illness.

(2) Making an inventory of existing facilities and services, surveying the need for construction, and developing a program of construction.

(3) Developing and administering a State Plan for the construction of public or other non-profit facilities.

(4) Establishing State Policy for financial participation in construction.

(5) Establishing rules and regulations regarding construction standards.

There are two groups in the State that are now studying the problems and existing services available to the mentally ill and the mentally retarded. The Virginia Mental Study Commission, under the direction of the Department of Mental Hygiene and Hospitals, is in the process of completing its report on the mental health situation. The Governor's newly formed Virginia Mental Retardation Planning Council is beginning similar work in the field of mental retardation. In developing the State Plan for construction the Health Department will depend upon the recommendations and suggestions of these groups on the location and type of additional facilities to be constructed from funds under PL 88-164.

Eligible projects will be defined under the following terms of the law: "The term *facility* for the mentally retarded means a facility specially designed for the diagnosis, treatment, education, training or custodial care of the mentally retarded, including facilities for training specialist and sheltered workshops for the mentally retarded, but only if such workshops are part of facilities which provide or will provide comprehensive services for the mentally retarded. The term *community mental health center*

means a facility providing services for the prevention or diagnosis of mental illness or care and treatment of mentally ill patients, or rehabilitation of such persons, which services are provided principally for persons residing in a particular community or communities in or near which the facility is situated."

All facilities built with grant-in-aid funds must be subject to rules and regulations determined by the State for construction and services. However, no control will be exercised over the administration of the facility or its medical staff. The Health Department will also consult and advise with the local areas concerning various problems which may arise. Experience indicates that these problems will range from those of organizing an area to build a facility to final review of plans and specifications for the building. Emphasis will be equally divided between consultation and advice, and inspection and certification. To keep the State Plan for construction current, annual revisions will have to be made by the Department.

The Department of Health recognizes the great responsibility placed upon it as administrator of the program. This launches the new concept in community oriented services and facilities for the mentally retarded and the mentally ill. With wise planning, however, much can be accomplished to provide better facilities where they are most needed.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Dec. 1964	Dec. 1963	Jan.- Dec. 1964	Jan.- Dec. 1963
Brucellosis -----	3	1	21	12
Diphtheria -----	0	2	0	2
Hepatitis -----	48	42	565	812
Measles -----	96	390	13443	8747
Meningococcal Infections ----	6	5	64	87
Meningitis (Aseptic) -----	3	0	24	29
Poliomyelitis -----	0	0	0	22
Rabies (In Animals) -----	32	27	334	238
Rocky Mt. Spotted Fever ----	1	0	35	37
Streptococcal Infections ----	930	985	10674	9653
Tularemia -----	1	0	8	7
Typhoid Fever -----	0	4	12	13

Mental Health....

Virginia's First Mental Health Congress

Virginia's first Statewide Congress on Mental Illness and Health will be held in February, 1965. This Congress is an outgrowth of the American Medical Association's two national congresses on mental illness and health held in Chicago in 1962 and 1964. Representatives from Virginia to these national congresses have continued to function as a State Steering Committee and are sponsoring the Virginia Congress in February. These individuals for the most part represent the Virginia Association for Mental Health, The Medical Society of Virginia, and the Neuropsychiatric Society of Virginia.

The American Medical Association's "Statement of Principles of Mental Health" recognizes that "mental illness is America's most pressing and complex health problem and the important stake every physician, regardless of type of practice, has in improving our mental health knowledge and resources." "For these reasons, the Council on Mental Health of the American Medical Association was charged with developing a realistic, positive program which would more fully integrate the physician into the nation's mental health efforts. The Council has drawn up such a program, placing special emphasis on how the A.M.A. through its constituent societies and departmental councils and committees can make significant contributions in the field of mental health." Our own Congress is primarily

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Approved for publication by Commissioner, Department Mental Hygiene and Hospitals.

W. DIMMOCK BUXTON, M.D.

directed to the physicians of the State, more especially the non-psychiatric physician. We hope as many readers as possible will make plans to attend.

The Congress will be held at the Key Bridge Marriott Motel in Arlington, on Friday night and Saturday morning, February 26 and 27, 1965. There will be a reception and banquet on Friday evening, at which time the Congress will be addressed by Dr. Daniel Blain, President of the American Psychiatric Association, and Dr. Richard Palmer, immediate past-president of The Medical Society of Virginia. On Saturday morning there will be a report from Virginia's Study Commission on Mental Health, plus addresses by Dr. Walter Barton, Medical Director of the American Psychiatric Association, and Dr. Lucy Ozarin from the National Institutes of Mental Health. These will be followed by a banquet luncheon and the Congress will close with an address from Mr. Mike Gorman, Executive Director of the National Committee Against Mental Illness.

Generous financial support has been afforded from the three sponsoring organizations as well as the following companies: Geigy Pharmaceuticals, Merck, Sharp and Dohme, Sandoz Pharmaceuticals, and Smith, Kline and French Laboratories (through the American Medical Association grant).

Members of The Medical Society of Virginia will be contacted individually, others may make further inquiry to Robert Howard, Executive Secretary, 4205 Dover Road, Richmond 23221.

Woman's Auxiliary

<i>President</i> -----	MRS. W. NASH THOMPSON, Stuart
<i>President-Elect</i> -----	MRS. GEORGE W. KELLY, Pulaski
<i>First Vice-President</i> -----	MRS. C. SHERRILL ARMENTROUT, Harrisonburg
<i>Second Vice-President</i> -----	MRS. T. E. SMITH, Hayes
<i>Third Vice-President</i> -----	MRS. F. PRESTON TITUS, Alexandria
<i>Recording Secretary</i> -----	MRS. WILLIAM J. REARDON, McLean
<i>Corresponding Secretary</i> -----	MRS. DRAKE PRITCHETT, Danville
<i>Treasurer</i> -----	MRS. ROBERT H. MITCHELL, Arlington
<i>Parliamentarian</i> -----	MRS. T. N. HUNNICUTT, JR., Tabb

The Petersburg Medical Auxiliary

Celebrated its fortieth anniversary in November. A tea was held in the home of Mrs. E. Palmore Irving. Reminiscent of the era, members wore clothes typical of the times and presented a musical program of songs of the "Roarin' Twenties."

The following is the history of the Auxiliary which was presented at this meeting:

The Petersburg Medical Auxiliary was organized in 1924 with Mrs. Olivia Patrick Nixon as its first President, and Mrs. Herbert C. Jones, the first Treasurer.

Unfortunately, the Secretary's books which carried the minutes of the first ten years were lost, so there are no records now available except the Treasurer's book. However, it is remembered that Mrs. Fletcher J. Wright was the second President, and she was followed by Mrs. George Reese, who was succeeded by Mrs. W. B. McIllwaine, III.

The organization was first known as the "Dinwiddie County Medical Auxiliary," which was later changed to the "Petersburg Unit of the Post Graduate Medical Society." Wives of all members of the Post Graduate Medical Society were invited to join, and some from Blackstone, Crewe, Farmville, and other nearby places did join. As the members later found it difficult to attend and only a few from Hopewell, Dinwiddie and Amelia remained as members, the name was again changed—this time to the "Petersburg Medical Auxiliary".

An annual linen shower for the Peters-

burg Hospital was instituted in 1934 and this was one of the chief projects of the Auxiliary each year until 1953. The linen shower was discontinued after the new Petersburg General Hospital opened with its greatly expanded facilities and it became necessary to purchase linens in greater quantity for economy.

Another important project has been the contribution each year to the State Tuberculosis Bed Fund, to which all Auxiliaries in the state contribute. This was inaugurated in 1935 by Mrs. Fletcher J. Wright, who was at that time President of the State Auxiliary. The purpose of this fund is to assist any physician, or dependent, who is a patient in a State Tuberculosis Sanatorium. Several years later the name was changed to the "Leigh-Hodges-Wright Memorial Fund" in memory of Dr. Southgate Leigh of Norfolk, Dr. Allison Hodges of Richmond, and Dr. Fletcher Wright of Petersburg, each of whom was serving on the State Advisory Board for the Auxiliary at the time of their deaths.

Three members of the Petersburg Medical Auxiliary have served as State Presidents: Mrs. Fletcher J. Wright, 1935; Mrs. John E. Hammer, 1946; and Mrs. Herman W. Farber, 1951.

The first tea given for the nurses, of which there is a record, was in 1936 and each year since then, to the present time, the Auxiliary has entertained the student nurses either with a tea, dance, or picnic. Since 1961 the Freshman Class and Nursing School Staff have been entertained in early September, during their orientation period, with a swimming party at the home of an Auxiliary member.

Five hundred dollars was contributed to the Nursing School in 1953 and the Auxiliary will continue to sponsor this, and other phases of hospital work, to its utmost ability. In addition, the Auxiliary tries to add in

some small way to the happiness of mentally retarded children in Petersburg by entertaining them at three holiday parties during each year.

A nursing scholarship of three hundred dollars was established in 1955 and in 1957 named the Marion Smoot Edmunds Scholarship. This has been awarded annually to a deserving student of Petersburg General Hospital School of Nursing.

By February 1953, one thousand five hundred fifty dollars had been given for the new hospital building, which is now the Petersburg General Hospital, and a plaque bearing the name of this organization has been placed there.

Members have taken active parts in Red Cross, as well as in all civic and health drives, and a large number have given many hours to hospital work. The Auxiliary was instrumental in establishing the present Petersburg Hospital Guild.

Our first financial contribution to AMEF, later changed to AMAERF, American Medical Association Education and Research Foundation, was in May 1953 and has continued each year.

Throughout its history, the Auxiliary has taken an active interest in medical legislative matters and with the encouragement of AMA has attempted to inform its membership and the public on health legislation.

For the past forty years the Petersburg Medical Auxiliary has served the community and the medical profession. Its objectives have been:

To interpret the aims of the Medical Profession to other organizations interested in the promotion of health education.

To develop and increase friendliness among the families of the medical profession.

To do work approved by the State and Local Advisory Council.

Mid-Tidewater Auxiliary.

New officers were installed at the meeting held in Urbanna on October 27th. Mrs. Sterling Ransone is president; Mrs. Joseph Chinn, president-elect; Mrs. A. L. Van-

Name, Jr., vice-president; Mrs. A. V. Jackson, Jr., treasurer; Mrs. Raymond Brown, recording secretary; and Mrs. Richard Bowles, corresponding secretary.

Mrs. W. Nash Thompson, State president, and Mrs. George Kelly, president-elect, were guest speakers at this meeting.

Arlington Auxiliary.

At the meeting of this Auxiliary on November 10th, Mr. George T. Quinn, Special Agent for the F.B.I., spoke on "The Role of the F.B.I. in Law Enforcement."

On December 3, 4 and 5, The Auxiliary sponsored a special sale of handcraft by the handicapped at the Arlington Trust Company. The project was under the chairmanship of Mrs. Charles P. Cake. All through the year, "Handcraft by the Handicapped" may be purchased at the Craft House in Alexandria. The shop is entirely financed by Christmas Seal funds and the patients receive the full selling price of the article. In the Christmas sale by the Auxiliary, the profits are sent to the handicapped workers before Christmas.

Northern Neck.

"Better Health, Better World" was the subject of the speech given to the Woman's Auxiliary to the Northern Neck Medical Association by Mrs. W. Nash Thompson of Stuart, President of the Woman's Auxiliary to The Medical Society of Virginia.

At the meeting, held at the Indian Creek Yacht and Country Club on October 22, Mrs. Thompson emphasized the need for doctors' wives to take an active part in community health projects. The desire for an increased contribution to the American Medical Education and Research Foundation was expressed.

Mrs. George W. Kelly of Pulaski, President-Elect of the State auxiliary, spoke on membership and gave ribbons as reminders to increase membership this year.

At the conclusion of the business meeting the auxiliary members and guests joined the doctors for dinner. The auxiliary will meet next in May 1965.

Giant Hypertrophy of the Gastric Mucosa (Menetrier's Disease)

IN 1888 MENETRIER first described diffuse thickening of the gastric wall and described these entities as "*polyadenomes polypeux and polyadenomes en nappe*". Since the original classical description by Menetrier, his terms have become synonymous with giant hypertrophic gastritis, massive hypertrophic gastritis and large gastric rugae, polypoid hyperplastic swelling of the gastric mucous membrane, and adenopapillomatosis gastrica. It has also been suggested that gastritis polyposa, follicular gastritis, cystic gastritis, gastric mucosal hypertrophy and tumoral hypertrophy of the gastric mucosa are variations of hypertrophic gastritis. The etiology remains unknown.

The original microscopic description of the histopathology by Menetrier has not been improved upon to date and the original paper is highly recommended. It might well be that the condition as originally described by Menetrier could be called Menetrier's disease and the combination of hypertrophic gastritis, hypoproteinemia, with or without edema, could constitute Menetrier's Syndrome.

The Menetrier's Syndrome, which we have had occasion to see recently, seems characterized by a high protein turnover due to loss of serum proteins through the gastric mucosa eventuating in a low serum albumin and gamma globulin with other protein fractions remaining basically within their range of normal (by electrophoresis). The close relationship between hypoproteinemia and the state of the gastric mucosa has been shown. By the use of radio-active tagged serum albumin it was possible to estimate the amount of albumin lost through the gastric mucosa to be as high as eight grams per day. It should also be pointed out, however, that massive hypoalbuminemia of gastric origin is known to occur in carcinoma and one should search diligently for this condition.

Epigastric distress seems to be the most common complaint and dull aching postprandial pains highly suggestive of peptic ulcer disease may be present. Vomiting may occur and, in addition, there may be nausea or loss of appetite. The findings occasionally suggest pyloric obstruction. There may be upper gastrointestinal bleeding. Weight loss is often severe in longstanding cases. There is a possibility of tenderness to palpation

in the epigastrium. Edema frequently is the finding which sends the patient to the doctor initially. It should be emphasized that there are no clinical features which are pathognomonic of Menetrier's Syndrome. The triad, however, of edema, hypoproteinemia and epigastric distress should arouse suspicion as to the correct diagnosis.

Hypertrophic gastritis is approximately five times more common in males than females and may be present at all ages. The youngest reported case was that of a three-year-old and the oldest was 77. The highest incidence apparently occurs in the fourth and fifth decades.

The increased loss of serum proteins through the weeping of normal gastric mucosa, or the effect of an inhibitory influence on synthesis and storage of protein, would lead to hypoproteinemia and this, in turn, may cause the presenting complaint to be diarrhea. It is interesting to note that following subtotal gastrectomy it has been reported that plasma proteins have returned to normal and are apparently maintained in cases thought categorized by findings of Menetrier's Syndrome.

We should again like to caution, however, the simulation of this disorder by carcinoma. One study reported two of eight patients having polyadenomas polypeux had malignant changes in the polyps. Another report of three cases of multiple diffuse polyposis, that is, polyadenomas polypeux, had one showing malignant degeneration. That the polyadenomas polypeux (diffuse gastric polyposis) are often highly malignant should be evident and the so-called polyadenomas polypeux should be differentiated from the polyadenomas en nappe which is considered the benign form.

An unreported five year review of cases from the Medical College of Virginia Hospitals has recently been concluded and would suggest that there are many more cases of Menetrier's Syndrome than indicated by a review of the present world literature.

No treatment seems completely satisfactory for this condition, however, in milder cases of Menetrier's Syndrome only careful follow-up with studies of serum protein should be needed. Sometimes a high protein diet helps when hypoalbuminemia is present. Steroids have been tried with varying degrees of success. Gastric surgery is sometimes needed in advanced intractable cases and total gastrectomy can be necessary when the stomach is diffusely involved.

ROBERT EDGAR MITCHELL, JR., M.D.

The Inflationary Effect of Fee Schedules

IN RECENT YEARS fee schedules have been published by various medical societies, specialty groups, compensation commissions and insurance companies. The first step in preparing such a schedule is to ask physicians to list their usual charges on a questionnaire. Some physicians list the maximum rather than the average fee while others list what they would like to charge rather than what they do charge. These inflated figures are averaged and rounded off on the upward side. After the schedule is published each physician compares it with his own fees, raises those that are low and finds an excuse for those which are high. Consequently each new fee schedule results in a 10 to 20 per cent rise in most medical charges.

With the progressive depreciation in the value of the dollar it is obvious that fees should increase. With improvement in medical knowledge physician's services are of more value to the patient than they were in the past. However, there is a point of diminishing returns. As the gross income of the physician's practice increases the percentage which he has left after overhead and taxes decreases sharply. A rise of physician's fees makes it more difficult for patients to pay their bills, and consequently increases the pressure for government medicine. The solution is not apparent, but the inflationary effect of fee schedules must be recognized.

JAMES M. MOSS, M.D.

News

New Members.

During the month of December, the following new members were received into The Medical Society of Virginia:

Charles Vincent Ashworth, Jr., M.D.,
Lynchburg

Allen J. Awad, M.D., Richmond

James McDermott Barnes, M.D.,
Richmond

Wilmer Kenneth Blaylock, M.D.,
Richmond

David Ronald Carlson, M.D., Arlington

Robert Lee Carter, M.D., McLean

Ernest Linwood Clements, M.D.,
Richmond

James Karnes Davis, M.D.,
Newport News

Lawrence Alfred Gaydos, M.D.,
Arlington

Isaiah Allen Jackson, Jr., M.D.,
Richmond

Frederick K. McCune, M.D.,
Charlottesville

George Joseph McMahon, M.D.,
Springfield

Louise Wilkes Robertson, M.D.,
Richmond

Agustin R. Rodriguez, M.D.,
Newport News

Keith Harlow Wolford, M.D.,
Newport News

James Edwin Wood, III, M.D.,
Charlottesville

Charles Chua Yu, M.D., Falls Church

Fairfax County Medical Society.

Dr. John E. Prominski has been installed as president of this Society. Dr. Robert L. Guillaudeu has been named president-elect; Dr. Donald S. Thorn, vice-president; Dr. C. Barrie Cook, secretary; Dr. Mario E. Espinola, treasurer; and Drs. Edward J. Gallagher and M. Mendel Bocknek, executive committeemen. Dr. Kenneth W. Berger is

retiring president and will also serve as executive committeeman for 1965.

Smyth County Medical Society.

Dr. James Patterson, Marion, has been elected president of this Society, succeeding Dr. Charles Austin, Abingdon. Dr. Fausto Obregon, Marion, is vice-president and Dr. William Greever, Chilhowie, secretary-treasurer.

American Medical Association.

At the Clinical Session of the Association held in Miami Beach in November, Dr. James Z. Appel, Lancaster, Pennsylvania, was named president-elect. He will be installed as president at the June meeting, succeeding Dr. Donovan F. Ward.

Oldest Active Airplane Pilot.

Dr. A. McG. Wallace, Gate City, is the oldest active airplane pilot in the United States—he is 90 years young. The Federal Aviation Agency which recently renewed his pilot's license for another two years believes he may be the oldest pilot in the world. Dr. Wallace learned to fly in 1938 and two years later he bought the first of four airplanes he has owned. He has over 3000 hours of flying time to his credit and usually flies twice a week. Dr. Wallace's wife and 17-year-old son are also licensed pilots.

Dr. Wallace still practices medicine. He has practiced in Scott County for the entire sixty-one years since his graduation from medical school.

Dr. Edward C. Paarfus,

Recently of Stuart, has closed his practice and located in Richmond where he is taking a residency in psychiatry in the Richmond and Petersburg areas.

Dr. W. Linwood Ball,

Richmond, has been appointed by the

Board of Trustees of the American Medical Association to a four-year membership on the Medical Advisory Board of the Sears-Roebuck Foundation.

Dr. Ennion S. Williams,

Richmond, has been promoted to senior vice president of The Life Insurance Company of Virginia.

Training in Psychiatry.

The Department of Neurology and Psychiatry of the University of Virginia School of Medicine announces a new program for training in psychiatry. The purpose of this program is to foster the development of psychiatric training for non-psychiatric residents and to extend support to practicing physicians who want intensive psychiatric training but who do not intend to become psychiatrists. This new program is made possible through a new grant-in-aid from the National Institute of Mental Health. A special training experience has been planned to fit the needs of such trainees. Part of the time will be spent on the Psychosomatic Consultation Service and part in General Psychiatry.

Trainees will fall into one of the following two categories:

1. Intensive Psychiatric Training for Non-Psychiatric Residents.

Available to residents in training in other specialties. This requires full time participation in the residency training program in psychiatry for not less than six months. The stipend for the non-psychiatric resident will be the same as the stipend for the psychiatric resident at the same stage of specialty training. This consists of \$4,200.00 for the first year; \$4,800.00 for the second year; and \$5,600.00 for the third year.

2. Psychiatric Training for the Non-Psychiatric Practitioner (who does not intend to practice psychiatry)

Candidates for this program should have completed four years of practice and/or training beyond the internship and the pe-

riod of training proposed should be for at least six months. The stipend for the period of this training will be \$1,000.00 a month. Emphasis in training will be on the training of the non-psychiatrist in the psychological aspects of medicine.

Interested physicians should contact Dr. Richard W. Garnett, Jr., Department of Psychiatry, University of Virginia School of Medicine, Charlottesville.

Jerusalem Hospital Named for Richmond.

The Jerusalem Hospital for Women which opened in Jerusalem in October has been dedicated to the memory of Marie Elizabeth Bickers. She was the mother of Dr. William M. Bickers, also of Richmond. The hospital was made possible by a grant from the Marie Elizabeth Bickers Foundation which was established by her children in 1950. The modern 20-bed hospital is situated in the Kaloti building just outside the walls of the ancient city at Herod's Gate in the Jordan section.

Southern Medical Association.

At the recent annual meeting of this Association held in Memphis, Dr. R. H. Kampmeier, Nashville, was installed as president. Dr. J. Garber Galbraith, Birmingham, was named president-elect; and Drs. Guy T. Vise, Meridian, and Harwell Wilson, Memphis, vice-presidents.

Dr. Charles J. Frankel, Charlottesville, has been elected chairman of the Section on Orthopedic and Traumatic Surgery.

Dr. Neil Callahan, Portsmouth, has been elected chairman of the Section on Otolaryngology.

The Section on Plastic and Reconstructive Surgery has elected Dr. Jerome E. Adamson, Norfolk, as its secretary.

Dr. Carrington Williams, Jr., Richmond, has been named secretary of the Section on Surgery.

The 59th Annual Meeting of the Association will be held in Houston, Texas, November 1-4, 1965.

The Cardiac Symposium,

Sponsored annually by the Washington Heart Association and the Heart Association of Northern Virginia, will be held on March 31st at the Marriott Twin Bridges Motor Motel.

Nutrition Forum.

The ninth annual Forum, organized by the Virginia Council on Health and Medical Care, will be held in Richmond, March 2nd. The theme of the program will be "Nutrition is for Grown-Ups, Too!" Principal speaker will be Rear Admiral Joseph L. Yon, Commanding Officer, U. S. Naval Hospital, Portsmouth.

American College of Physicians.

The Golden Anniversary Session of the College will be held in Chicago, March 22-26, at the Conrad Hilton Hotel. Some 300 physicians and other medical scientists, including two from Norway and Switzerland, will take part in the program.

The American Academy of Pediatrics

Will hold its spring session April 26-29 at the Americana Hotel, Miami Beach, Florida. All pediatricians and other physicians interested in children are invited to attend. Those interested may write to the Academy, 1801 Hinman Avenue, Evanston, Illinois, for a preliminary program and housing and registration forms.

The American College of Physicians

Will hold a regional meeting in Williamsburg on February 20th. It will consist of scientific presentations, an informal luncheon and an evening banquet. Information may be obtained from Dr. Kinloch Nelson, 1200 East Broad Street, Richmond.

Dr. Paul Carlson.

Dr. Paul Carlson was a 1956 graduate of George Washington University School of

Medicine. He is to be remembered forever after as a martyred medical missionary. He died in the great war between humanitarian free world society and communist slavery.

Carlson symbolized all white men who want nothing from Africa but a chance to help. He was no canonized saint and no deliberate martyr. He was a highly skilled physician who, out of a strong Christian faith and a common humanity, had gone to the Congo to treat the sick. His death did more than prove that Black African civilization is largely a pretense. The Congo rebels who tortured and slew him were for the most part a rabble of dazed, ignorant savages, used and abused by semi-sophisticated leaders. Above all he was the victim of men who were the dupes of communism.

Somewhere in the Congo are a few men, women, and children who fleetingly knew Dr. Carlson's healing hand. We must hope that he left his mark, the mark of victory over ignorance and savagery. However the time is far off when peace and prosperity will come to Central Africa. Many pockets of rebel strength are left behind. African leaders will continue to countenance this Black-White savagery to maintain the theme of their ascendancy. The communist world, led by Red China, will continue to exploit the color line.

We are charged with three main duties: To forgive, to remember, and to fight. To forgive because that is the strength of our civilization. To remember because that is the hope of our cause. To fight because fear of the fight is our downfall.

A single life, or even a hundred, may not mean much in the grim reckoning of Africa or the Orient. African tribes butchered each other for centuries before the white man arrived and in colonial days white soldiers killed countless, nameless Africans. However, Dr. Carlson's murder, against the backdrop of the present international scene, is a special tragedy. His life is one more symbol for all the nameless who have died because of man's inhumanity to man.

Dr. Carlson is to be remembered for ever after. May his death not be in vain.

—*Reprinted from the Medical Bulletin of North Virginia.*

A physician's aid Carlson Fund has been established by the Los Angeles County (Calif.) Medical Association to aid the family of Dr. Carlson. Richard J. Lescoe, M.D., chairman of the fund, explains that it provides "a mechanism for the citizens of this country who wish to donate gifts to Dr. Carlson's wife and children." As a result of Dr. Carlson's self-sacrifice, his wife is left with the responsibility of providing for two young children. He had practiced medicine for only a short time before he volunteered to go to the Congo. We are informed that his assets, his life insurance and so forth are very small.

All funds will go directly to his family and checks should be made out to the Physician's Aid Carlson Fund and sent to 1234 North Vermont Avenue, Los Angeles, Calif.

General Physician Needed—

Family internist by four-man group in growing rural program in West Virginia. Modern clinic facilities, regularly visiting specialist consultant staff, scheduled training and vacation periods, foundation sponsorship, no investment required. Starting net income range \$14,000-\$18,000, depending on qualifications.

Inquiries should be addressed to #20, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23200. (*Adv.*)

Associates Wanted.

Generalist or Internist. Richmond, Virginia, suburb. To share very active clinic-

type practice; some surgery optional; new fourteen-room air-conditioned building with complete diagnostic facilities; alternate working hours and week ends; salary with extras first, then partnership. A second semi-retired physician is also needed for restricted practice. Send complete biography to #80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23200. (*Adv.*)

Position Available.

Tuberculosis Control Staff Physician. For qualified medical chest specialist, preferably with tuberculosis hospital experience. Headquarters: Richmond, Virginia. Salary range: \$14,328.00 to \$17,900.00. Starting salary dependent upon training and experience.

Duties primarily to assist other staff physicians in providing medical consultant service to State-wide system of regional chest clinics jointly operated by State and local health departments; also assisting in interpretation of chest films taken by health departments' units. Reasonable travel expenses reimbursed. State-owned automobile may be used.

Applicants must be American citizens, under 50 and eligible for Virginia medical licensure. Liberal sick and annual leave. State retirement. Malpractice insurance provided.

Write: W. E. Apperson, M.D., Assistant Director, Division of Tuberculosis Control, Virginia State Department of Health, Richmond, Virginia 23219. (*Adv.*)

Wanted.

Physician to share office in Richmond, Virginia. Write #40, care Virginia Medical Monthly, 5205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituaries

Dr. William Lawrence Gatewood,

Richmond, died December 13th at the age of seventy-nine. He was a graduate of the Medical College of Virginia in 1909. Dr. Gatewood specialized in ear, nose and throat diseases and practiced in New York City where he was attending physician to several of the larger hospitals in and around the City. Upon his retirement several years ago he made his home in Richmond and Cape Cod. He was a life member of the New York Academy of Medicine and a founder member of the American Board of Otolaryngology. Dr. Gatewood has been a member of The Medical Society of Virginia since 1909.

His wife and two daughters survive him.

Dr. Ernest Brubaker Miller,

Elkton, died December 13th. He was seventy-three years of age and a graduate in medicine from the University of Virginia in 1919. Dr. Miller had practiced in Elkton since his graduation, except during World War I when he served with the American Expeditionary Forces in France. He was active in the civic and community affairs of his community. Dr. Miller was a Mason and had recently received his 50-year pin. He was also a member of the Acca Temple Shrine in Richmond. Dr. Miller had been a member of The Medical Society of Virginia for forty-five years.

His wife, a daughter and two sons survive him. One is Dr. Charles Miller, also of Elkton.

Dr. Gilbert Octavius Crank,

Los Angeles, California, died December 27th after an illness of several months. He was a native of Bedford County and seventy-one years of age. Dr. Crank graduated from the Medical College of Virginia in 1916. He

had been a member of The Medical Society of Virginia since 1921.

His wife and a step-daughter survive him.

Dr. James Russell Parker,

Providence Forge, died December 10th, at the age of eighty-four. He was a 1906 graduate of the Medical College of Virginia and had practiced in New Kent County until his retirement several years ago. Dr. Parker was a past master and a district deputy of the Masons. He was a member and past president of the Mid-Tidewater Medical Society and had been a member of The Medical Society of Virginia for thirty-four years.

His wife, two daughters and three sons survive him.

Dr. Anthony Peter Slewka,

Formerly of Culpeper, died in Pittsburgh on December 11th, following a coronary. He was thirty-five years of age and a native of Canada. Dr. Slewka was a graduate of the University of Western Ontario in 1954. He completed his residency at Duke University Hospital, following which he located in Culpeper. He was a member of The Medical Society of Virginia.

Dr. Slewka is survived by his wife and two children.

A Memorial Prayer for Dr. Massie.

Almighty God, whose Son gave His life that we might have life and have it more abundantly, Who measurest the quality of life not in length of days but in dedication to Thee and service to fellowman,

We give Thee high praise and hearty thanks for the grace and virtue, for the example of faith and the unsparing service to thy sick and suffering children declared unto us in thy servant Robert Massie.

Grant him an entrance into the fellowship of Thy chosen saints, and grant that his life may be a constant reminder of the

spirit in which Thy healing gifts are offered, and an inspiration to those who follow in his profession to spare not themselves in ministering humbly, devoutly and skillfully to the healing of the hearts and minds of men, and to the refreshment of their tired hearts.

Grant wisdom, grace and strength to those who now assume the responsibilities of office in his stead, that they may serve worthily, all to the enlightenment and encouragement of those who administer Thy healing gifts and to the glory of Thy name, through Jesus Christ our Lord.

(Prayer at Richmond Academy of Medicine, November 10, 1964, by The Rev. Louis A. Haskell, Grace and Holy Trinity (Episcopal) Church, Richmond.

Dr. Hartley.

German Smith Hartley was born in LeRoy, West Virginia, July 17, 1881. He received his early education in the school of that town. He graduated from the University of Louisville, Louisville, Kentucky, in 1908 receiving an M.D. degree.

Dr. Hartley served as an interne in Miner's Hospital No. 2, McKendree, West Virginia, and then joined the staff of Sheltering Arms Hospital, Hansford, West Virginia. He did private practice in Eagle, West Virginia, from 1916 to 1920. He then joined the medical staff of the C & O Railway Employee's Hospital, Clifton Forge, until the date of his death June 21, 1964.

Dr. Hartley remained an ardent student of medicine during his long and active career. His biographical sketch contains a long list of periods of post graduate study in many of the better known centers of medical education. He was interested in all branches of his profession, his outstanding interest being in diseases of the chest and metabolic diseases. He did post graduate work in both of these.

Dr. Hartley was a diplomate of the Board of Internal Medicine and held active membership in a number of medical societies including the Alleghany-Bath County Medical Society, The Valley of Virginia Medical Society (he was past President of both of these), The Medical Society of Virginia, the American Medical Association and the American College of Physicians.

In spite of his intense interest in and devotion to his profession, Dr. Hartley found time for many community activities. He was a member of the School Board for a number of years, he was also a member of the Council of the City of Clifton Forge

and served a period as Mayor of the City. In addition, he was City Health Physician. He was also a Director of the Mountain National Bank.

His outside interests were many and varied. He was a Shriner and in 1962 was given a 50-year pin in the Masonic Order.

Dr. Hartley had one of the largest collection of guns in this area—it contained well over two hundred pieces—including many rare and interesting ones. He played a little golf at one period—but soon gave it up for other things which interested him more. He was an expert gardener, and during the growing season would often get up at 5:00 a.m. and spend two or three hours with his plants. One special interest which is rather unusual these days, he had a well equipped blacksmith shop in his back yard—where he and his friends could do unusual repair jobs.

Although Dr. Hartley lived and practiced well beyond the allocated four-score years—we of the Alleghany-Bath County Medical Society miss him, we miss that on the surface and gruff greeting which we all well knew was from a warm and interested heart.

THEREFORE BE IT RESOLVED that this expression of gratitude for having known and worked with him be filed with the minutes of the Society and that a copy be presented to Mrs. Hartley—with our sympathy.

WILLIAM P. GILMER, M.D.

Dr. Hamilton.

WHEREAS, God in His infinite wisdom has taken unto Himself the soul of our fellow practitioner, Dr. John Richard Hamilton, and

WHEREAS, We recall his valuable services and kind consideration to the Eastern Shore community, and especially through the Northampton Accomack Memorial Hospital since its opening in 1928, and

WHEREAS, We wish to honor his memory,

THEREFORE BE IT RESOLVED That we express our appreciation of his work among us and our sorrow in his death,

AND FURTHER BE IT RESOLVED That a copy of these resolutions be made a permanent part of the minutes of the Medical Staff of the Northampton Accomack Memorial Hospital, that a copy be sent to the local newspapers, a copy to the Virginia Medical Monthly, and a copy to the bereaved family.

H. L. DENOON, JR., M.D.

WM. F. BERNART, M.D.

W. CAREY HENDERSON, M.D.

Committee

Dr. Upchurch.

It is with sorrow that we record the death of Dr. Roy Wakefield Upchurch on July 29, 1964, after an illness of approximately two years. Dr. Upchurch was born December 4, 1902, at Oxford, North Carolina. He was educated at the University of North Carolina and received his Medical Degree from the University of Virginia in 1925. He established his practice in Danville, specializing in urology, in 1930. He was on the Staff of Memorial Hospital and Winslow Hospital; Fellow, American College of Surgeons; Diplomate, American Board of Urology; member of Danville Academy of Medicine, The Medical Society of Virginia, Tri-State Medical Society, Southern Medical Association, American Medical Association, Virginia Urological Society; Mid Atlantic Branch, American Urological Association; American Urological Association. He was a member of Phi Gamma Delta and Theta Kappa Psi; Vice-President of Virginia Urological Association; was a member of Danville Young Men's Club, Danville Golf Club, American Legion, and Danville Chamber of Commerce.

He was a pioneer in Urology in Danville where the older members saw the first Transurethral Prostatectomy performed, which greatly reduced the mortality of prostatectomy. He served with distinction in World War II, being discharged as a Commander in the U. S. Naval Reserve.

He is survived by his widow, Mae McDaniel Upchurch, two daughters and one son by a previous marriage, and 11 grandchildren. He is also survived by three sisters.

THEREFORE, BE IT RESOLVED that the Danville-Pittsylvania Academy of Medicine extend our sympathy to his bereaved widow and family.

BE IT FURTHER RESOLVED that this resolution become a part of the minutes of the Danville-Pittsylvania Academy of Medicine and a copy be sent to his family and to The Medical Society of Virginia.

J. J. NEAL, M.D., *Chairman*

ASA VICCELLIO, M.D.

M. H. McCLINTIC, M.D.

Dr. Tipton.

It is with regret that the Danville-Pittsylvania Academy of Medicine records the death of Dr. James W. Tipton at the age of 69.

Dr. Tipton practiced his specialty—Eye, Ear, Nose and Throat—in Danville for 42 years. He was a graduate of Hampden-Sydney College, the Medical College of Virginia, Cornell University and the New York Eye, Ear, Nose and Throat Hospital.

He was a member of the First Presbyterian Church, the American Medical Association, The Medical Society of Virginia and the Danville-Pittsylvania Academy of Medicine.

Dr. Tipton will be remembered as a courteous gentlemen and a devoted practitioner of medicine. His death has been keenly felt by his wide circle of patients and friends.

THEREFORE, BE IT RESOLVED that this expression of grief be recorded in the minutes of the Danville-Pittsylvania Academy of Medicine and a copy be sent to the Virginia Medical Monthly.

T. H. McGOVERN, M.D.

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(Founded by Landon B. Edwards, M. D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

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Annual Subscription—\$2.00

Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL

The Latest National Nostrum—*John P. Lynch, M.D.*..... 109

ORIGINAL ARTICLES

Presidential Address—*Richard E. Palmer, M.D.*..... 112

Glioblastoma Multiforme—*C. Assanasen, M.D., R. F. Bon-*
durant, M.D., J. S. Palkot, M.D...... 116

Appraisal of Glomectomy for Asthma—*John B. Catlett,*
M.D., E. S. Ray, M.D., John Fairly, M.D., and George
Welchons, M.D...... 120

Incidence of Hearing Loss and Otolaryngologic Disorders in
Consecutive Admissions to a State Mental Hospital—*Phil-*
ip M. Sprinkle, M.D., G. S. Fitz-Hugh, M.D., Gardner
Harden, M.D., Daryl Waldren, Ph.D...... 124

Report on Fluoridation for Richmond, Virginia—*Winston*
W. Frenzel, D.D.S., and Peter A. Triani, D.D.S...... 130

CORRESPONDENCE

American College of Surgeons..... 135

Good Samaritans 136

CANCER TRENDS

The Uses of Esophageal Prostheses in the Management of
Patients with Carcinoma—*G. S. Fitz-Hugh, M.D.*..... 137

MENTAL HEALTH

Patient Return Rates to Two Mental Hospitals—*Edwin S.*
Zolik and Edna M. Iantz..... 139

DIAGNOSTIC LABORATORY MEDICINE

Platelet Disorders—*L. M. Fisher, M.D.*..... 143

PUBLIC HEALTH

Some New Laboratory Services..... 145

EDITORIAL

Ennion S. Williams, M.D., 1906-1965—
Harry J. Warthen, M.D...... 147

Radioactive Isotopes in Medicine—*John A. Martin, M.D.*... 149

NEWS 150

OBITUARIES 153

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Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 42

Guest Editorial

The Latest National Nostrum

THE ADMINISTRATION'S PROPOSED war on the three major diseases, which constitute the cause of 71 per cent of all deaths, is just as politically cynical as the war on poverty, and for essentially, the same reason. It proposes to squander tax monies to solve suddenly, on a crash basis, problems which, from the beginning of man, have occupied the minds of our best scientists and physicians. Many of these problems are so basic that they will never be solved until we have learned the origin and physiology of living tissue, the meaning of life, and the way to insure immortality. I am a little surprised that the goal was not set against mortality rather than only 71 per cent thereof. Of course, 70 per cent has long been considered a passing mark and politicians have to be practical even in health matters.

On December 27th, on a panel type television program, three nationally known physicians appeared to promote this surprising hoax on the American people. They intimated that if, what they, and their grant-supported institutions knew, could be disseminated to the level of the practicing physician there would be a sharp reduction in mortality. For instance, cancer mortality could be reduced from saving one out of three, to one out of two, and by recognizing early signs of stroke vast numbers of people could be spared this disabling disease. How preposterous, how cruel such statements are when they come from supposedly recognized leaders in their field. Their knowledge in New York and Houston is gained under ideal experimental circumstances, in highly selective patients, carefully screened to fit their particular interests. They seem to have lost their perspective for what really confronts the practitioner in dealing with people.

Their grandiose scheme to bring knowledge down from on high through the establishment of four hundred health centers throughout the country is patently political, an ominous step toward State medicine. What do they think the fine medical schools of this country are doing, and have been doing for the past hundred years? Are they not bringing the latest techniques to students and practitioners by continued education programs? Are not the great specialty organizations such as the American College of Physicians, and the American College of Surgeons busily engaged in continued educational programs, as are many local and state and national medical associations? Have not the great free enterprise pharmaceutical houses of America already expended millions of dollars in profitable research in advancing the role of antibiotics and steroids and other miraculous drugs, and won't they continue unless hampered by Government's heavy hand? These nationally known grant-supported physicians think in terms of what will best further the interest of the welfare state. They seem to care little about the doctor-patient relationship. To them statistics seem more important than people and subsidies than free enterprise. The whole situation reminds one of the western medicine shows of the last century, only the stakes are higher, and our Leader is the medicine man.

Are we beginning to witness the take-over of American Medicine by an all wise, all powerful Government which uses every power of a totalitarian state by control of television and other news media and the creation of an elite coterie of health commissars which by virtue of their grants speak for this Government in a superior and paternalistic way? This group looks down on the opinion of the American Medical Association as though it was unworthy to represent the physicians of this country and not to be considered by any but the most benighted, backward supporters.

In the December 28, 1964, issue of Medical Economics it was stated the "Federal Government poured \$309,212,409 into United States medical schools in 1963. This is 51 per cent of what the schools spent for all purposes that year." Of course, almost a third of a billion is chicken feed to the proposed three billion dollar program to promote the war on three major diseases. Medical education has been taken to the extent of 51 per cent and now the Federal Government bids strongly to take over medical practice.

It is to be hoped fervently that the American people will awaken to

this peril before it is too late. The Great Society will never be worth sacrificing the principles upon which these United States were founded.

JOHN P. LYNCH, M.D.

Editor's Note: Dr. Lynch is chairman of the Committee on Aging and Chronically Ill of The Medical Society of Virginia.



(Mrs. W. LEONARD WEYL in The Medical Bulletin of Northern Virginia)

Presidential Address

RICHARD E. PALMER, M.D.
Alexandria, Virginia

Activities of the Society have been many and varied. They have contributed to the progress of medicine and continued loyalty is urged.

THE MEDICAL SOCIETY OF VIRGINIA was founded in 1820 and chartered by the Assembly of Virginia in 1871. (Twenty-seven years after the formation of our Society a small group of physicians met and organized the American Medical Association.) Article II of the Constitution of The Medical Society of Virginia states that the purposes of the Society "are to promote the science and art of medicine, the protection of public health, and the betterment of the medical profession." Testament to the fact that we have met the charge so clearly stated in our constitution is evidenced by the unsurpassed caliber of medical care readily available in our State. The Medical Society of Virginia is responsible in large measure for advancement on all medical and allied fronts in our State. Just as surely as the strength and accomplishments of the AMA are traceable to the State Medical Societies, the strength and accomplishments of The Medical Society of Virginia lie in the support of our component societies and the nearly 3,300 individual physicians who comprise our membership. The activities of the Society revolve around our eleven standing committees and twenty-seven special com-

mittees. Two hundred sixty-two of the members of the Society serve on committees. Never has a member of our Society, during my term as President, refused an assignment. This is a remarkable record, because I know that in many instances service to the Society was through personal sacrifice, by already overburdened physicians. I would be remiss if at this junction I did not tell you of the complete dedication to our purposes of the members of Council, and most especially I want to thank the Executive Committee for sound advice and support on many knotty problems. The real hub of our activities is Bob Howard and his efficient and loyal staff consisting of Ed Smith, Miss Watkins and Mrs. Spring. Bob's clear analytical approach to any situation has been a source of comfort to me and I have relied heavily on him to uncross tangled wires.

American medicine has been maligned from many quarters in recent years with virtually no justification. Let's look briefly at our accomplishments and prepare ourselves to answer our critics. American medicine leads the world at a time of phenomenal medical accomplishment. Since 1944 medicine has made more progress than that made in the previous 19 centuries. Stop and think: 80% of the drugs used in this nation today were not even in existence a decade ago. Our constant object is to produce better physicians who can provide better medical care in an atmosphere which will stimulate never-ending progress.

At the time our Society was founded, doctors were faced with the unpleasant fact that the quality of medical education in the United States was bad. Medicine boldly set about to correct this evil and today there are 87 medical schools in this country and there is not a "second-rate" school among

Presidential Address delivered at meeting of The Medical Society of Virginia, Norfolk, October 11-14, 1964.

them. Nine schools have been opened since World War II and eleven are in the planning stage. More than 7,000 young physicians were graduated last year and currently 31,000 students are enrolled in our medical schools. These students are being taught what is new and how to utilize the fruits of progress. This new knowledge is a great socio-economic factor—periods of hospitalization are less today. Today a patient will stay in the hospital five days for an appendectomy while twenty years ago he would have been hospitalized at least two weeks. For the best medical care in the world Americans spend only six cents out of every dollar and for this pittance, killers and maimers such as peritonitis, diphtheria, typhoid fever, tetanus, tuberculosis, pneumonia and poliomyelitis have been virtually eliminated. Twenty years ago, cancer of the cervix uteri was the second most common cancer in the female but thanks to a simple cytologic screening test, which allows early diagnosis and treatment, this dread disease has virtually disappeared from even the largest clinics.

We can point with pride to the Traffic Safety campaign. The use of seat-belts has become commonplace in the past few years. Yet we all know that for a good many years one of our valued members, Fletcher Woodward of Charlottesville, was like a voice in the wilderness on this score. The use of the blood test for alcohol in drivers suspected of being under the influence of alcohol has been supported by our Medical Society. We have worked with industry to help eradicate health hazards on the job and have long advocated that the General Assembly pass a Second Injury law.

We have worked to improve the health environment of rural communities and have encouraged, supported and cooperated with the Virginia Council on Health and Medical Care in placing doctors in communities that are in need of a physician.

Our Committee on Rehabilitation has provided professional guidance to the State Department of Vocational Rehabilitation. We

have cooperated with the State Health Department and provided support in programs to detect the rare but mentally disabling case of phenylketonuria. Recent knowledge that dietary elimination of phenylalanine commenced early in life will prevent mental deterioration in this disorder makes it socially and economically expedient to discover new cases shortly after birth.

The Committee on Maternal Health is doing yeoman work in the study of case reports of maternal deaths, upgrading standards for maternity hospitals and stimulating interest and study in the reduction of perinatal mortality. We should not overlook the fact that we have a model Medical Examiner's system—a product of Medical Society interest.

In 1964 The Medical Society of Virginia provided a scholarship fund of \$1,000 to each of our two medical schools for aid to deserving Virginians, at the discretion of the deans of the schools. In addition, AMA-ERF provided about \$21,000 in 1964 which was nearly equally allocated to our two schools.

One of our greatest sources of pride is our Virginia Medical Monthly. Over the years our Monthly has steadfastly built a solid reputation of excellence. This we knew, but it was only when the chips were down—when the major pharmaceutical houses were forced by the Senate Investigating Committee to curtail their advertising expenditures—that the superiority of a well-built foundation became readily apparent. Our Monthly, like all state medical society journals, has suffered from the Federal retributions against the great pharmaceutical industry. Of all of the state medical society journals, ours stands second to none. Our Monthly provides us with superior scientific papers, public health news and advances which aid materially in fulfilling the charges set forth in our constitution.

Our detractors like to say that the AMA is a gigantic lobby and really does not speak for the doctors of this country. If we know the facts we can tell these perpetrators of

falsehoods that the AMA is a service organization run by the physicians of this country to bring the latest advances in medicine to the individual physician so that he can keep abreast of this age of great scientific progress. The AMA has over 200,000 members out of about 270,000 physicians in this country. For anyone to say that the AMA does not speak for the doctors in this country is a preposterous statement—albeit all of us may not be in total accord on every issue. It may interest you to know that the “gigantic medical lobby” in Washington consists solely of four hard-working, dedicated representatives. Less than two per cent of the AMA budget is devoted to legislative and not scientific endeavors. Contrast this to the countless millions of dollars that the Federal government spends lobbying in an attempt to make the medical profession knuckle-down to Federal control of our practices. Even so, when the President recently signed the Hospital and Medical Facilities Amendments of 1964, which extends and expands the present Hill-Burton program for five years, he said in effect that he did not understand why the doctors objected to the King-Anderson legislation because the program was designed only to pay hospital costs for the aged and did not include physician payments. But now he let go with a Freudian slip. He said American medicine was the best in the world. Yes, he said that and he was right. But he neglected to add that this level of excellence was attained under the free enterprise system.

One of our newest endeavors has been the organization of a committee to study the relation between religion and medicine. The purpose of the study is an attempt to create the proper climate for communication between the physician and the clergyman that will lead to the most effective care and treatment of the patient. This concept takes cognizance of the facts that man is physical, spiritual, mental and social. He is a whole being, and in ill health, he requires total care and treatment.

Mental illness is generally recognized as

America's most pressing health problem. Our Committee on Mental Health has been extremely active and has developed a broad and realistic program to deal with an urgent situation.

Medicine was rather severely criticized shortly after the Surgeon General's Office released its report on smoking and lung disease. You will recall that the AMA appropriated \$500,000 of its funds for research in this important area and subsequently accepted a large grant from the tobacco industry for research. The purpose of the research has been poorly understood. The AMA agreed with the findings of the report and indeed much of the research material on which the report was based was contributed by the AMA. While it is agreed that smoking causes many heart and lung ills, no one as yet knows why. It is unrealistic to assume that human beings may stop smoking en masse. While millions may stop and millions of young people will prayerfully never start smoking, millions more—adults and young people alike—will continue to smoke. We cannot turn our back on the smoker, any more than we can stop urging safety precautions in driving just because millions ignore these precautions. Our tobacco research, then, is to try to find out what there is about cigarettes which cause harm, with the hope that, like any other ill, a remedy can be found.

On the legislative front, the past year has been most active. Nationally, we introduced and effectively implemented Operation Hometown and this, plus the consistent efforts of many physicians and medical auxiliary members throughout the United States, was a prime factor in the refusal of Congress to enact the King-Anderson legislation into law. This has been a hard and tiring fight and it is far from over.

The fact that the House-Senate Joint Conference Committee refused to report out the Social Security amendment with its attendant cash increases to Social Security recipients, means that the first order of business in the new legislative calendar—if

the present Administration is returned by the voters—will be a new Medicare bill. This means that we will have to redouble our efforts to defeat this attempt to foist the commencement of Socialized Medicine on the American people. Senator A. Willis Robertson has termed the Gore Amendment to the Social Security Bill the most socialistic legislation he has encountered in his thirty-one years of legislative life. We are all tired of fighting, but we cannot in good conscience relax our vigil, because we know that once the battle is lost, medicine under the free enterprise system will be forever gone. You will be called upon to give unselfishly of your talents, time and money to a fight for a cause which we know is right and best for the American people. A philosopher once said something to the effect that “the hottest fires in hell are reserved for those who at the time of moral crisis remain neutral.” We are at the point of crisis now.

During the past year the Officers and Councilors of the Medical Society made their annual pilgrimage to Washington to enjoy having lunch and the opportunity to socialize and exchange ideas with our Congressmen and Senators. This has been a highly satisfying experience and I firmly believe that mutual respect and understanding has resulted from these informal gatherings.

At the State legislative level, twenty measures pertaining to the practice of medicine in Virginia were thrown in the hopper. Among the more important bills was one which would make the Board of Medical Examiners the administrative agency for the licensing of clinical psychologists and would give that agency the power to stop any unlawful practice of medicine by clinical psychologists. This bill was bitterly fought by the clinical psychologists and a study by the Virginia Advisory Legislative Council was directed by the General Assembly. In the area of third-party medicine, your Society supported a bill which would allow insurance companies to join and pool their

talents and resources in providing a health plan to insure persons over age 65 against accident and sickness. This is a splendid example of private enterprise rising to the need for voluntary insurance for our older citizens. Here is a further example of the fact that if the “do-gooders” and socialists would leave men of good will to their own devices, a non-governmental solution to major problems can be evolved. The Kerr-Mills Bill was implemented on January 1, 1964, and is now available to help cover the cost of medical care for approximately 80,000 eligible Virginians of 65 years of age and older. During the first six months of this year about \$1,136,000 of Federal, State and local funds was available for Kerr-Mills recipients. During the last session of the General Assembly, legislation was passed which will provide nearly \$8,000,000 of Federal, State and local funds for the biennium which began July 1, 1964. The Medical Aid for the Aged portion of the Kerr-Mills legislation is far from perfect, but the fact that the bill has flexibility increases the likelihood that this will become an effective measure.

I do not propose to give you a recitation of all of my activities during the past year. Suffice it to say that I have tried to meet with any component Society that extended an invitation, as well as with allied Medical organizations. I have attended the sessions of the House of Delegates of the American Medical Association, as well as the annual meetings of the West Virginia State Medical Association and the Kentucky State Medical Association. I have found the past year a rewarding experience. I appreciate the confidence you placed in me in allowing me to serve as trustee of a great medical heritage and Society affairs of profound importance.

I thank you all for a grand experience and for Mac Birdsong I wish strength of body and purpose, and God's blessing.

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Glioblastoma Multiforme

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Brain scintillation scanning has been shown to be an accurate diagnostic test in localizing brain tumors and has the significant advantage of being free from complications and discomfort.

THERE have been many improvements in instrumentation and techniques in brain scintillation scanning since Moore⁹ in 1947 reactivated interest in localizing brain tumors by reporting his findings of selective uptake of radioactive iodine labelled diiodo-fluorescein in cerebral neoplasms.

The basic procedure of injecting radioactive material intravenously and recording the activity of this isotopic material is essentially the same, however, the highly sensitive scintillation counters, specialized crystals, photorecording circuits and cameras, and multichannel collimators are being constantly improved.^{1,10,12} Equally important is the wider use of shorter acting isotopes with the development of new isotopic labelled compounds that are improving the sharpening of detail in the recording film.³ Previous studies with radioactive material such as: I^{131} (diiodo-fluorescein) (I^{131} human albumin), P^{32} , Cu^{64} , As^{76} ($(NH_4)_3AsO_4$), has been superseded with the introduction of Hg^{203} , Hg^{197} (chlormerodrin).^{5,11,12,13,14,18}

McAfee et al.⁷ in their series of 350 patients found the accuracy of brain scintillation scanning in the diagnosis of brain tumors much higher than the electroen-

cephalogram even for such specific cerebral neoplasms as glioblastoma multiforme where an increased vasculature⁴ has been noted. They also favored brain scanning over angiography and air studies because they felt that the position and the extent of the intracranial tumors were portrayed accurately because the tumor bed itself was visualized.

This case report records an example of the accuracy and ease of radioactive isotope brain scintillation scanning in the localization of a cerebral neoplasm. Because of the high mortality^{8,6,16,20} and morbidity of glioblastoma multiforme, an easy and innocuous diagnostic test such as radioactive scintillation scanning was thought to be indicated.

Case Report

A 33-year-old white female was admitted to the hospital because of severe headaches for four weeks.

Except for a mild attack of food poisoning two to three months prior to admission, she had been in good health. Four weeks prior to admission, the patient began to experience headaches accompanied by nausea, non-projectile vomiting and occasional photophobia. She had blurring of vision during these attacks. The pain was aching in character and varied from moderate to severe degree in intensity. The pain started at the vertex and radiated to the ears, forehead, and neck. There was no particular time sequence to the pain. If she awoke with a headache, the headache would last all day with only moderate relief of pain for a short duration when she took aspirin or anacin. During the week prior to admission the severity of her symptoms increased and although her headaches were intractable and persistent, she was still able to perform her

work. There was no confusion, staggering gait, disorientation, tremor of hands, loss of memory, or definitive disturbance of vision.

Past history revealed that she was involved in an automobile accident and received a skull fracture when she was a child.

Physical examination revealed a well nourished woman who was slightly lethargic. The temperature was 98.7°F, the pulse 80/min., regular and full, and the respirations 20. The B.P. was 130 systolic and 80 diastolic. Her carotid pulses were intact and equal. With her arms outstretched there was a downward drift of her left arm and an increase in deep tendon reflexes on the left. There was a positive Babinski sign on the left. She kept her right eyelid closed during the examination but she did not admit to diplopia. There was facial weakness of central origin. The optic fundi showed normal arterio-venous appearance but the discs were choked. There was no nystagmus, or impairment of visual acuity.

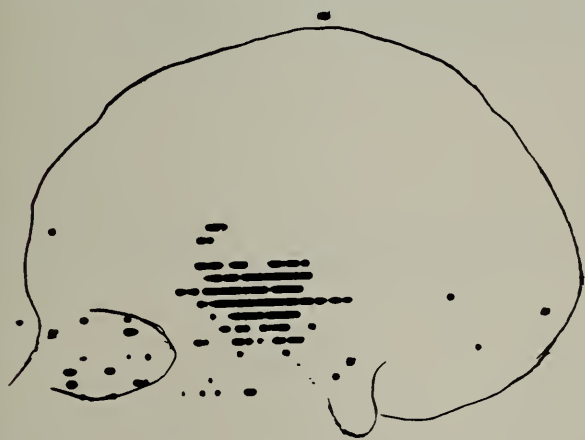


Fig. 1

Examination of her blood revealed a hemoglobin of 12.6 grams per 100 ml., and WBC of 10,800 with a differential of P. 76, L. 23, E. 1. Urinalysis revealed a 2-plus test for acetone, and 15-20 WBC per high power field. Plain skull x-rays were negative. A lumbar puncture yielded clear, colorless fluid that contained 2 lymphocytes/cu.mm., total protein 75.8 mgm./100 ml., an opening pressure of 330 mm. and closing pressure 190 mm.

A radioactive mercury (Hg^{203}) scan indicated a large area of abnormally increased radioactivity over the right antero-temporal region which was interpreted as representing a tumor. See Figures 1 and 2.

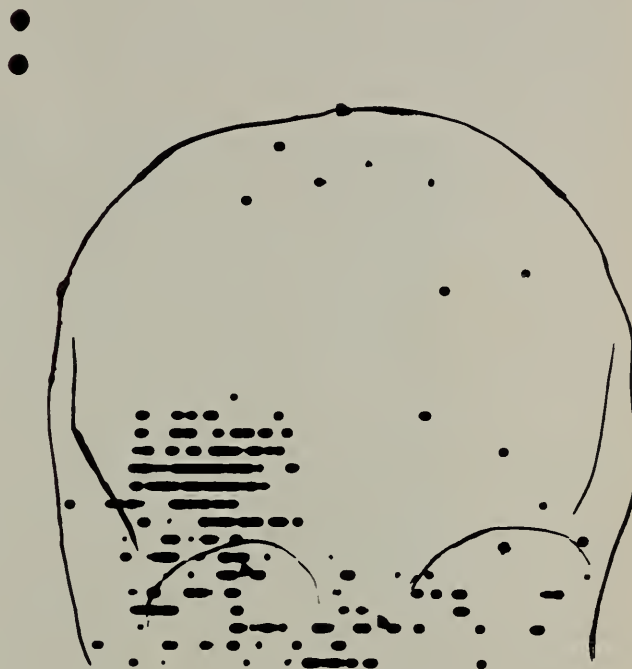


Fig. 2

During her hospital stay she developed visual hallucinations; however, there was no hearing loss, convulsions, or anopsia.

The patient underwent a right temporal craniotomy on the sixth hospital day. Upon the opening of the calvarium the dura bulged from increased intracranial pressure. Gross examination revealed a very soft, purplish-gray tumor encompassing the right temporal lobe. A large portion of the tumor was excised but the tumor extended deeply and medially along the great vessels which prevented its complete removal. It was estimated that two ounces of tumor was excised. See Figure 3.

Her immediate post operative course was uneventful. However, on the 20th post-operative day her condition deteriorated and she began a progressively downhill course. The patient expired on the 32nd hospital day.

Discussion

There have been many diagnostic tests^{17,19} including echoencephalography¹⁵ for determining the localization of intracranial tumors. This case report has demonstrated the accuracy of brain scintillation scanning by using radioactive Hg²⁰³. Hg²⁰³ was used because of the rapid renal excretion and the

The main disadvantage of Chlormerodrin is the retention of 10% of the dose in the kidney with a kidney biological half life of 28 days and delivery of 37 mrad. In view of these findings our future brain scintillation scans will employ Hg¹⁹⁷. It has been reported by several investigators that an important advantage of brain scintillation scanning

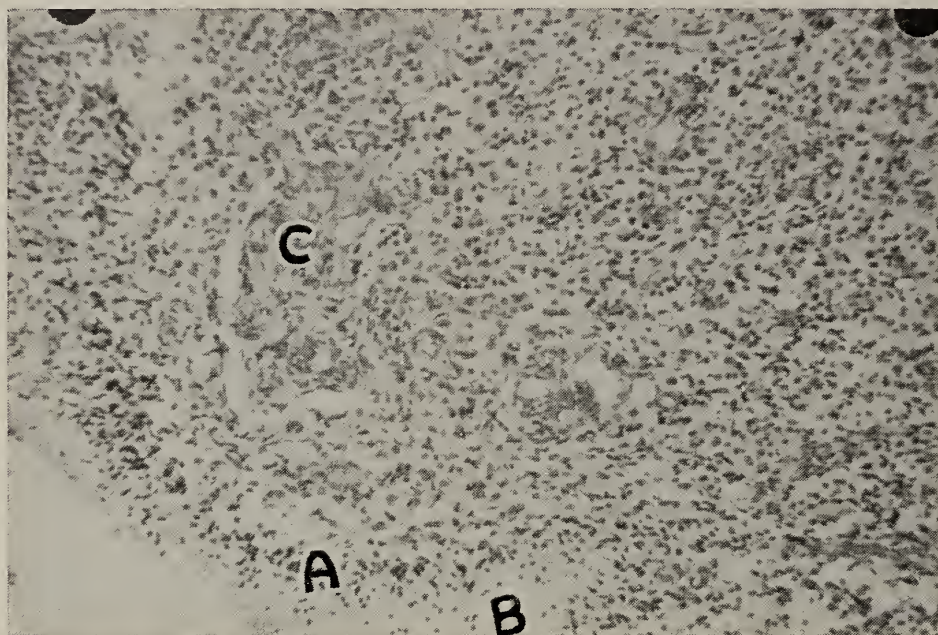


Fig. 3. Photomicrograph demonstrating the pathology of the brain tissue removed at craniotomy (X-100).

- A. Palisaded nuclei.
- B. Margin of necrotic tumor.
- C. Vascular proliferation.

whole body biological half-life of only eight hours.

Ter-Progossin et al.¹⁸ achieved an accuracy of 84% by using an intravenous dose of 700 uc, Hg²⁰³ or Hg¹⁹⁷, three to four hours prior to the scan. The advantage of Hg²⁰³ versus I¹³¹ labelled serum albumin is that the administration of 10 uc/kg of Chlormerodrin Hg²⁰³ to a patient results in a whole life exposure of 290 millirads as compared to 700 millirads delivered subsequent to the injection of 5 uc/kg of I¹³¹ labelled serum albumin. More recently, Sodee³ reported greater concentration in malignant cells by using Hg¹⁹⁷. He states that other advantages of Hg¹⁹⁷ over Hg²⁰³ include the excellent tissue-to-background ratio (2.7) versus Hg²⁰³ (1.7) and the low whole body radiation dose (17 mrad/1 mc. of patient dose).

over angiography and air studies is the freedom from complications and discomfort.⁷

Summary

A case of glioblastoma multiforme demonstrating the value of brain scintillation scanning is described.

A summary of techniques and various radioactive isotopes listing the advantages and disadvantages is included. Overall improvements in techniques and isotopes have increased the accuracy in the diagnosis of intracranial brain tumors with no false positive scans reported.

Brain scintillation scanning is a valuable ancillary diagnostic test and has the advantages of accuracy and freedom from complications and discomfort.

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A Law That Curtails Progress

There is no doubt that the industry has been hurt by the Drug Amendments of 1962 and subsequent regulations. . . . Ten major U.S. pharmaceutical firms have reported curtailment of research and development operations, and even those which report increased expenditures in these fields claim that they have had to cut back on the number of substances being investigated because of added costs and paperwork. We believe it is necessary, at long last, to challenge the steady erosion of our freedom by a regulatory agency; in effect to attempt to halt the steady descend of the pendulum.—C. Joseph Stetler, in *Cincinnati Journal of Medicine*, 45: 12, (Dec.) 1964.

Appraisal of Glomectomy for Asthma

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Glomectomy has been reported in the literature as an effective treatment for asthma and emphysema and has been said to have no operative mortality or morbidity. This critical appraisal, however, shows that the procedure is probably worthless as a treatment for asthma and emphysema and that there is a definite operative risk.

UNILATERAL CAROTID BODY REMOVAL has been recommended as a treatment for asthma and emphysema. The removal of this chemoreceptor is thought to reduce awareness of dyspnea produced by increased CO₂ tension and reduced oxygen tension.^{1,2} This reduction of the feeling of needing air is thought to reduce hyperventilation which can, in itself, make asthma worse. Physicians who have doubted the value of this procedure have not collected large enough series to be of any statistical value. Those reporting large series of cases have not given details as to preoperative treatments, classification of disease, complications, or subjective and objective follow-up.^{2,3,4,5,6.}

An effort has been made here to collect from a number of sources a sufficient num-

ber of patients who have undergone glomectomy to give some opinion as to the value of this procedure. Hospital charts of all patients have been reviewed, and office record follow-up charts have been reviewed in most cases. Where possible, the written word of the examining physician has been recorded in results, and only rarely has the unwritten opinion of the doctor or patient been accepted.

Results

FIGURE 1

AGE	20-29	30-39	40-49	50-59	60-69	70-79
Patients	1	4	6	10	23	9
Sex	Male					38
	Female					15
Operation	Unilateral Glomectomy					45
	Bilateral Glomectomy					8
TOTAL PATIENTS					53	

Sixty-one glomectomies were attempted in fifty-three patients. Forty-five cases had unilateral operations and eight had bilateral operations. Carotid body tissue was identified by the pathologist in 53 specimens, presumed to be present in three cases in which no report was found, and not identified in the specimens from five procedures. Thirty-eight patients were male and fifteen female. Ages ranged from 23 to 79 years.

Asthma or lung disease had been present for three to more than 45 years. An attempt was made to classify cases according to the etiology of the lung condition. Inhalant allergy was present in 21 cases. Chronic lung

Presented at the Fifth International Congress of Allergology, Madrid, Spain, October 16, 1964.

disease, which includes emphysema, chronic bronchitis, or structural lung changes, was present in 50 cases. Recurrent bacterial infections occurred in 38. Emotional factors were important in 12. Heart involvement was mentioned in 11.

FIGURE 2

DURATION AND CLASSIFICATION OF LUNG DISEASE						
Duration in Years of Lung Disease	5	5-9	10-14	15-19	20-24	25
	12	12	9	1	7	12

Classification of lung disease:

Inhalant allergy.....	21
Chronic lung disease (emphysema, fibrosis, chronic bronchitis).....	50
Recurrent bacterial infections.....	38
Emotional.....	12
Heart disease.....	11
Total Cases.....	53

Preoperative treatment was reviewed and all 53 patients had symptomatic therapy in keeping with etiologic factors. All received bronchial dilators. Most received expectorants, antibiotics, and corticosteroids. A small number of cases received physical therapy, 17 had allergic desensitization, 15 were bronchoscoped, and two underwent psychotherapy by a psychiatrist.

FIGURE 3
RESULTS OF GLOMECTOMY

	IMPROVED		Unchanged or Worse	Total Patients
	Objective and Subjective	Subjective Only		
Post-Operative	20	17	16	53
1 Year or to Death	8	3		
Death in Less than 2 Years	5	5	8	18

Results of surgery were recorded as to subjective and objective improvement. The patient was considered to be objectively and subjectively better if the record indicated less medication, fewer doctor visits, fewer hospital visits, and less morbidity. The patient was considered to be subjectively better if objective findings were the same and med-

ications were unchanged, but the patient felt better. If the patient felt that he was unchanged or worse after glomectomy, and the reporting physician's recorded opinion agreed, then the operation was considered to have been without benefit. If the patient should have then subsequently improved because of another treatment or environmental change, the improvement was not attributed to glomectomy.

Twenty patients were immediately improved, both objectively and subjectively. An additional 17 patients were immediately subjectively better. Eleven patients showed no change and five patients were worse. Of the twenty patients who were objectively and subjectively better postoperatively, eight remained better for more than one year, or until death. Of these eight, one was considered better because she did not have to be hospitalized, even though her medication and asthma remained the same until her death eight and a half months after surgery. Two others, of the eight, are dead, one in 14 months of GI hemorrhage, and one in 19 months of rectal hemorrhage following surgery for cancer of the sigmoid. Of those initially improved, four patients were worse in one to four months. Three were unchanged from their preoperative state in 10 months. One had no objective change, but thought he felt better. Two deteriorated, but responded to changes in therapy, one to a corticosteroid spray and the other to abstinence from cigarettes. Two patients had different conditions affecting evaluation. One reactivated old tuberculosis in seven months, and one had a mental breakdown. The patient with the mental breakdown had shown tissue negative for carotid body on pathologic specimen.

Of the seventeen additional cases reported as being subjectively better, three maintained their improvement after glomectomy. Of these three, one died in nine months of respiratory failure and one died in 18 months of cerebral vascular accident.

Preoperative and postoperative pulmonary function studies including vital capacity,

forced expiratory volume (1 sec.) and arterial blood studies for O₂ tension, CO₂ tension, and pH, resting and after exercise, were made in only five patients. These were of no value in predicting benefits to be derived

FIGURE 4

Case No. 8 G.E.B. 56 WM	Pre-Operative	POST-OPERATIVE	
		1 Month	9 Months
Vital Capacity	3,100 cc	2,050	1,860
FEV (1 Sec.)	980 cc	590	600
Arterial Gas			
pO ₂ Rest	78 mm Hg.	72 mm Hg.	58 mm Hg.
Exercise	73	61	61
pCO ₂ Rest	46	56	61
Exercise	45	55	54
pH Rest	7.40	7.36	7.37
Clinical Response		Subjective Improvement	

from glomectomy. One patient felt subjectively improved, but showed lung deterioration on follow-up pulmonary function studies.

Thirteen complications of surgery were noted. Five of these ended fatally. Of these five, two were postoperative deaths and were the direct result of surgery. One patient had respiratory distress, needed oxygen, and four

FIGURE 5

POST-OPERATIVE COMPLICATIONS

Death upto 50 Days Post-Operative	Intractable Asthma (8 days)	5
	Apnea and Respiratory Depression (17 days)	
	Ligation of Comm. Carotid Artery and Hemiplegia (21 days)	
	Transitory Coma and Respiratory Depression (30 days)	
	Respiratory Depression (50 days)	
Other Complications	Ligation of Jugular Vein	8
	Peptic Ulcer	
	Hematoma of Wound	
	Wound Infection	
	Marked Weakness	
	Weight Loss (28 lbs.)	
	Apprehension with Local Anesthesia	
	Severe Neck Pain	
	Total	53

hours postoperatively became apneic requiring tracheostomy and artificial respiration. This patient died on the 17th postoperative day with pulmonary emboli. The other postoperative death followed ligation of the

carotid artery because of bleeding after trauma to a sclerotic artery. Hemiplegia developed, and the patient died on the 21st postoperative day. In two other patients there was respiratory distress at time of surgery. One of these was discharged on the 18th postoperative day, and died in respiratory failure on the 50th postoperative day. The other patient became anoxic and confused at surgery, and shortly after discharge again became confused, went into coma, and died on the 30th postoperative day. One patient developed severe asthma on the seventh postoperative day and died of asthma on the eighth postoperative day. This patient had diffuse bronchopneumonitis, pulmonary edema, and fibrosis at autopsy.

Other complications included severe neck pain, ligation of the jugular vein, wound infection, weight loss of 32 pounds, marked weakness, abdominal pain, diarrhea, and peptic ulcer, and hematoma of the wound. The operating surgeons noted that the patients became quite excited under local anesthesia and changed to general anesthesia for the later cases in this series.

Eighteen of fifty-three patients were known to be dead less than two years after operation.

Discussion

In the literature, glomectomy has been reported as an effective treatment for asthma and emphysema. Nakayama⁴ reports 81.3% of patients either cured or markedly improved in six months; 72% maintained improvement for two years; and 58% maintained improvement for five years. Overholt⁵ reports significant relief in 47% of 274 patients and some improvement in another 35%. His series included 534 patients, but information on 260 cases is not reported. Sedwitz⁶ reports 78% of 100 patients remaining improved beyond six months. His report indicates 350 patients, but results in only 100 are quoted and these results are not given in any detail. Nakayama makes no mention of intractable asthma. He apparently began operating on asthmatics during

World War II when there was a shortage of doctors and drugs in Japan. He states that "this operation is indicated for all age groups since the surgical procedure itself carries no operative mortality or morbidity."⁴ Overholt and Sedwitz used the failure to respond to other types of medical therapy as the criteria for glomectomy. Each of the latter includes asthma complicated by emphysema in his series. None of these authors had serious complications of glomectomy.

Our patients fall into the category of those with intractable asthma. In this series of fifty-three patients, 17% showed objective and subjective relief of significant duration. An additional 6% showed subjective relief of significant duration. Removal of one carotid body in a patient with chronic lung disease does seem to have an immediate effect on the patient's awareness of dyspnea, as noted by a feeling of relief in 70% of fifty-three patients who underwent glomectomy. The percentage of patients maintaining benefit for any significant length of time is disappointing. The complications are not insignificant. It is felt that this procedure should not be taken lightly and that physicians should be warned of the limitations of glomectomy.

Summary

The records of fifty-three patients undergoing glomectomy are reviewed. Immediate subjective benefit was noted in 70% of patients, but long-term objective and subjective benefit was noted in only 17%, with an additional 6% maintaining subjective improvement. Two deaths were the direct result of glomectomy, and three more seemed more than casually related to this procedure. Eight other complications were noted. Eighteen of 53 patients were dead in less than two years.

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MONTHLY REPORT OF BUREAU OF COMMUNICABLE DISEASE CONTROL

	January 1965	January 1964
Brucellosis -----	0	0
Diphtheria -----	0	0
Hepatitis -----	49	36
Measles -----	609	538
Meningococcal Meningitis -----	8	4
Meningitis (Aseptic) -----	1	2
Poliomyelitis -----	0	0
Rabies (In Animals) -----	42	30
Rocky Mt. Spotted Fever -----	3	0
Streptococcal Infections -----	1169	1193
Tularemia -----	3	3
Typhoid Fever -----	0	0

Incidence of Hearing Loss and Otolaryngologic Disorders in Consecutive Admissions to a State Mental Hospital

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The need for services of an otolaryngologist in the rehabilitation of the mentally ill is indicated by the finding of handicapped hearing in 5.1% and otolaryngologic disorders in 7.69% of admissions to a state mental hospital.

THE EMPHASIS in mental hospitals has changed from providing custodial care to the rehabilitation of the mentally ill. In line with the philosophy of rehabilitation, we have undertaken the evaluation of consecutive admissions to one of our State Mental Hospitals, Western State Hospital, Staunton.

Our study has three primary objectives: (1) Screening audiometry, (2) complete ear, nose, and throat examination, and (3) correlation of age, psychiatric diagnosis, and positive otolaryngologic diagnosis with the hearing losses found.

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DR. HARDEN, Medical Director, Western State Hospital, Staunton.

Presented at the Annual Meeting of The Virginia Society of Ophthalmology and Otolaryngology, Arlington, May 1964.

To our knowledge, there is an extreme paucity of data of this type. Siegenthaler and Krzywicki¹ reported on a similar study but this was done on an adult mentally retarded group. Certainly, many audiometric studies have been done also on children. We hope to aid in the solution of the problem of whether hearing loss or disease of the ear, nose, and throat contributes materially to mental illness or prevents proper rehabilitation of the mentally ill adult.

Our objective in the last analysis is to determine the need for broad field audiometric evaluation and full otolaryngological evaluation in the rehabilitation of the mentally ill.

Procedure

During 1963 and 1964 a project of complete ear, nose, and throat evaluation and screening audiometry was undertaken on 170 patients at Western State Hospital in Staunton. The patients examined were consecutive admissions to the hospital with an admission diagnosis of mental illness. Excluded from this study were alcoholics and addicts. There has been no audiological evaluation in this hospital prior to this study. Neither have patients been examined for otolaryngological disease other than routine admission physicals.

The patients were given pure tone screening tests for the following frequencies, 500, 1000, 2000, and 4000, with standard audiometers and binaural earphones. The audi-

ometry was done by graduate students from the Department of Speech and Hearing at the University of Virginia. The pure tone threshold tests were administered in a quiet room in the infirmary area at Western State Hospital.

The ear, nose, and throat evaluation was done by the Senior Resident Staff at the University of Virginia Department of Otolaryngology. Those requiring more extensive examination were seen in consultation by the Senior Staff of the Department of Otolaryngology at the University of Virginia Hospital in Charlottesville.

The patients were grouped into the following age groups: 20-29, 30-39, 40-49, 50-59, and 60-69. This was done in order that our data could be better compared with the audiometric data of normals. We used the same age groups reported by Glorig,² O'Neill,³ and Beasley⁵ in their screening of normal population.

A survey of mentally ill children was not done as these patients are not admitted to Western State Hospital. A few patients between ten and nineteen and over the age of sixty-nine were screened but were excluded from this study as sufficient numbers could not be obtained to make them statistically significant.

We have defined hearing impairment as existing if the average hearing level at 500, 1000, and 2000 cycles per second is 15 decibels or more. We have further defined handicapped hearing as occurring if the speech frequency average is 30 decibels or more in the better ear. These definitions are those recommended by Davis and Silverman⁴ and are used by the military.

Significant otolaryngological disease is defined as that which in the opinion of the examiners would provoke symptomatology of sufficient magnitude to require repeated visits to a physician.

Results

Of the 170 patients examined, only five were sufficiently disturbed or uncooperative to the extent that satisfactory physical ex-

amination or audiogram could not be done. Thus, 2.99% could therefore not be initially examined due to the extent of their mental aberration.

Nine patients were excluded from the group as they were either over sixty-nine years of age or under twenty years of age. The remaining 154 patients are all included in this study. The psychiatric diagnoses are those shown in Table I and a comparison is

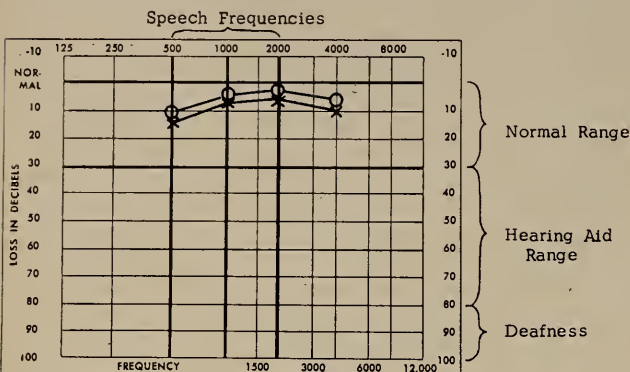
TABLE I
COMPARISON OF PSYCHIATRIC DIAGNOSES WITH
HANDICAPPED HEARING

	Total	SFA 30 db. or more
PSYCHONEUROSES		
1. Depressive Reaction: -----	18	1
2. Conversion Reaction: -----	1	
3. Anxiety Reaction: -----	2	
4. Unclassified: -----	3	
	24	
PSYCHOSES		
1. Involutional Psychotic Reaction: ----	8	
2. Paranoid Reaction: -----	5	
3. Schizophrenia: -----	54	
4. Manic-Depressive: -----	11	1
	78	
ACUTE BRAIN SYNDROME: -----	3	
CHRONIC BRAIN SYNDROME: -----	20	2
MENTAL DEFICIENCY: -----	10	2
PERSONALITY DISORDERS:		
1. Sociopathic: -----	5	
2. Adult Situational Reaction: -----	3	
3. Unclassified: -----	13	2
	21	
	156	8
Per Cent of Patients having SFA 30 db. or more -----		5.1%

made between the psychiatric diagnosis and the number of people who are handicapped with regards to their hearing. We have made no effort to bring into the paper those persons who have a hearing loss of greater than a speech frequency average of 15 decibels but less than a speech frequency average of 30 decibels in the better ear. These persons would be expected to miss something from ordinary conversation but would not be recommended for a hearing aid. We have found 5.1% of consecutive admissions to Western State Hospital to be handicapped

with regards to their hearing. A total of eight patients were found in this group.

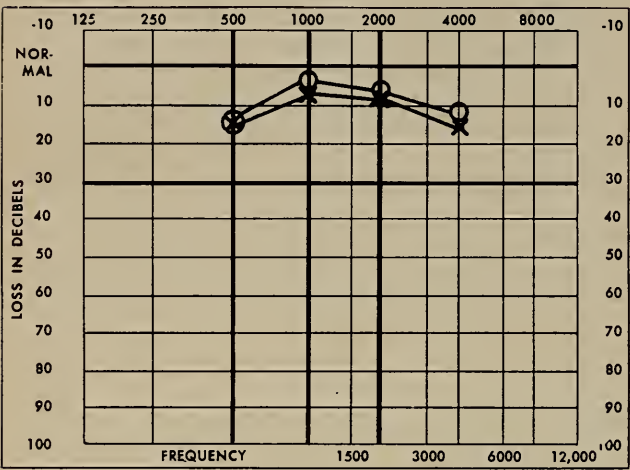
Figures 1, 2, 3, 4, and 5 show median



Median Audiogram
Air Conduction
Age 20-29

O - O Right Ear
X - X Left Ear

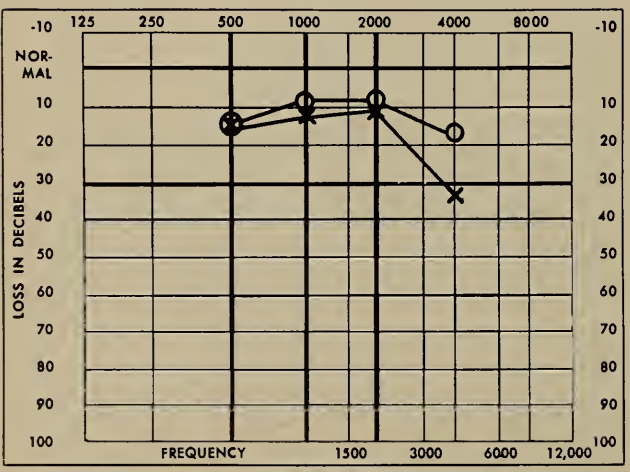
Fig. 1



Median Audiogram
Air Conduction
Age 30-39

O - O Right Ear
X - X Left Ear

Fig. 2

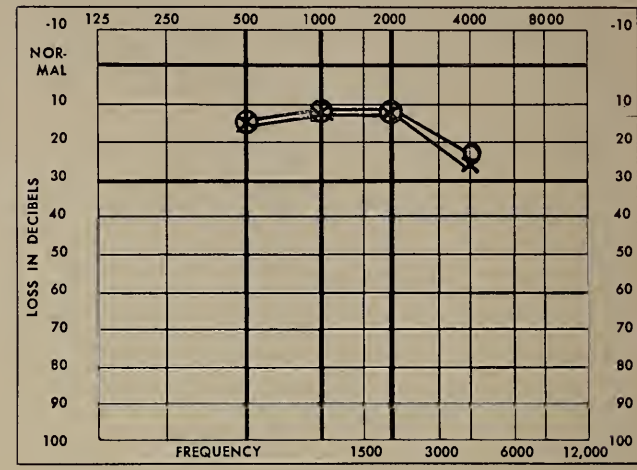


Median Audiogram
Air Conduction
Age 40-49

O - O Right Ear
X - X Left Ear

Fig. 3

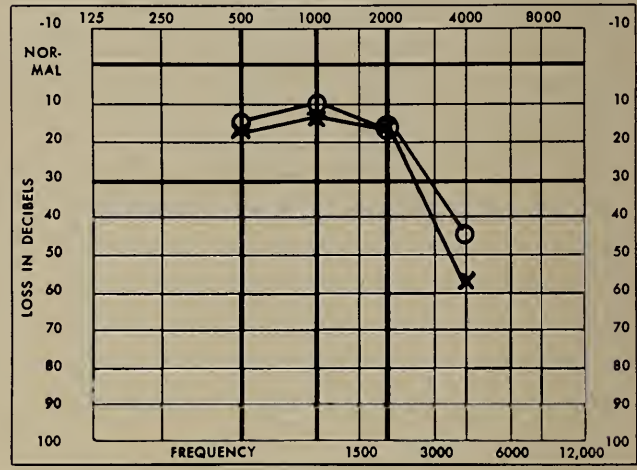
audiograms for the age groups examined and tested. Figure 6 shows a comparison between



Median Audiogram
Air Conduction
Age 50-59

O - O Right Ear
X - X Left Ear

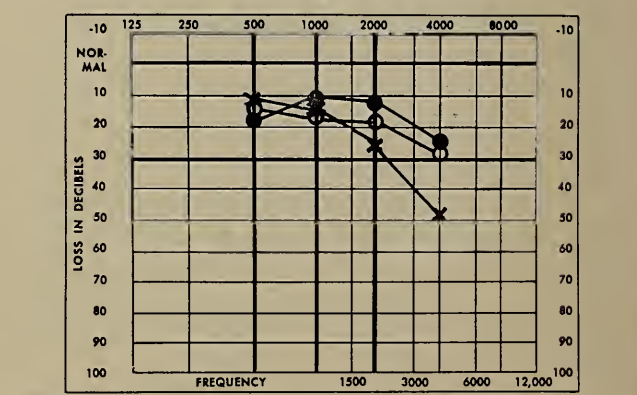
Fig. 4



Median Audiogram
Air Conduction
Age 60-69

O - O Right Ear
X - X Left Ear

Fig. 5



Median Audiogram
Air Conduction
Age 50-59

X-X National Health Survey-
Men (Left & Rt. Ears Combined)
O-O National Health Survey-Women
(Left & Rt. Ears Combined)
●-● Western State Survey
(Men & Women Combined)

Fig. 6

median audiograms of men and women tested in the National Health Survey⁵ and our group at Western State Hospital. These audiograms are for the age groups 50-59, our series showing the median audiogram for the left ear of men and women combined.

Table II shows the figures from the National Health Survey Median Audiograms,

TABLE II
MEDIAN HEARING LOSS FOR MEN AND WOMEN IN 50-59 AGE GROUP OF THE NATIONAL HEALTH SURVEY 1935-1936 AS COMPARED TO MEDIAN HEARING LOSS FOR WESTERN STATE HOSPITAL GROUPS AGE 50-59

Frequency	Sex	N.H.S. (Right and Left Ears Combined)	Western State Men and Women Combined (Left Ear Only)
500	Male	10.1	15.2
	Female	14.7	
1000	Male	13.9	12.14
	Female	15.9	
2000	Male	24.6	12.8
	Female	18.8	
4000	Male	49.5	25.62
	Female	27.4	

age 50-59, as compared to the median audiograms from our group at Western State Hospital, our group being the left ear only and includes both men and women.

A comparison between the psychiatric

TABLE III
COMPARISON OF PSYCHIATRIC DIAGNOSES WITH OTOLARYNGOLOGIC DIAGNOSES

PSYCHIATRIC DIAGNOSES	OTOLARYNGOLOGIC DIAGNOSES	
Psychoneuroses	Large calcified neck mass	1
Psychoses	Rhinnitis sicca	1
	Perforation tympanic membrane with purulent drainage	1
	Nicotine stomatitis	1
	Septal deviation with cyst vallecule	1
	Marked vocal cord hyperkeratosis	1
	Cystic lesion, ear	1
Chronic Brain Syndrome	Septal deviation and obstruction	1
Personality disorder	Marked septal deflection with obstruction	3
	Chronic mastoiditis	1
	Total	12

Per Cent of Patients having positive Otolaryngologic Diagnoses 7.69%

diagnoses and otolaryngologic disease is made in Table III. Clarification of the diagnosis of septal deviation should be made. We made no effort to include minor septal spurs and non-obstructive septal deviation, but only show those who have concomitant sinus disease and/or those in whom surgery would be recommended. A total of 12 patients were included in this group. 7.69% of the total number of patients examined had significant otolaryngologic disease. One patient was found to have handicapped hearing and a positive otolaryngologic disorder and therefore a total of 19 patients or 12.19% of this group were found to definitely need the aid of an otolaryngologist.

Discussion

Initial findings at Western State Hospital that initiated this study were essentially those of Dabelstein⁶ in that we found many deaf people who could not communicate with those of the staff or fellow patients. Knowing that rehabilitation depended directly upon communication, our study was undertaken.

Table IV shows the value of chi square wherein the data were classified by age groups and threshold at the given frequencies for the Western State Hospital sample.

TABLE IV
RELATIONSHIP BETWEEN VARIABLES OF AGE AND THRESHOLD AT GIVEN FREQUENCIES AT WESTERN STATE HOSPITAL

AGE DISTRIBUTION	Frequencies	Chi Square
20-29 and 30-39	500	1.97
	1000	4.30
	2000	2.56
	4000	8.32
30-39 and 40-49	500	2.70
	1000	3.43
	2000	4.20
	4000	9.11
40-49 and 50-59	500	3.68
	1000	2.40
	2000	3.10
	4000	9.44
50-59 and 60-69	500	3.34
	1000	4.88
	2000	4.34
	4000	14.89*

*Significant at .05 level.

The chi square tests of independence give evidence that no relationship exists between the two variables age and threshold within the 10 year ranges compared. The only evidence that age and threshold are related is the comparison between ages 50-59 and 60-69 at the frequency of 4000 cycles per second. This, however, is outside the speech frequency range of hearing and is thus of doubtful clinical significance.

Extreme comparison of age groups in this sample shows relationship between age and threshold at 4000 cycles per second in the following cases: 20-29 and 50-59, 20-29 and 60-69, 30-39 and 60-69. Each having a chi square value beyond the .01 level of significance but each are of dubious clinical significance as they are also beyond the speech frequencies.

The only statistically significant relationship occurred with age group comparison of 20-29 and 60-69 at the 1000 cycles per second frequency (chi square = 13.96, significant at .05 level), which indicates only what is well recognized clinically that there is a gradually increased hearing loss found in persons of increased age.

Statistically, a comparison of age distribution within the sample of mentally ill patients likewise shows a gradual increase in hearing threshold.

Hearing loss therefore does not appear to be a significant variable in the study of mentally ill patients. These data are also consistent with the data shown in Table V

TABLE V
WESTERN STATE HOSPITAL MEDIAN AUDIOGRAMS
LEFT EAR ONLY FOR ALL AGE GROUPS
(MEN AND WOMEN COMBINED)

AGE GROUPS	500 cps	1000 cps	2000 cps	4000 cps
20-29.....	13.21	8.00	5.00	10.00
30-39.....	13.06	7.50	8.06	15.62
40-49.....	13.86	11.43	10.83	32.50
50-59.....	15.20	12.14	12.08	25.62
60-69.....	17.00	13.34	15.62	58.0

wherein median audiograms are shown for the different age groups, all for the left ear only.

A total of eight patients or 5.1% of the tested group were found to have handicapped hearing and a total of twelve patients or 7.69% were found to have otolaryngologic disorders. One patient had a hearing handicap and a positive otolaryngologic diagnosis. Nineteen required the special attention of an otolaryngologist. This is a total of 12.19% of the 154 patient sample.

While hearing loss per se does not appear to be a significant variable in the study of the mentally ill it nonetheless is a test subject to great objectivity. To aid in the rehabilitation of 5.1% of the population of mental hospitals would perhaps justify this study. Coupled, however, with the positive otolaryngologic diagnoses the addition of the services of an otolaryngologist to the rehabilitation of the mentally ill seems well advised.

Summary

1. 170 consecutive admissions to Western State Hospital, Staunton, were examined for otolaryngologic disease.
2. Five patients or 2.99% could not be examined on admission due to the extent of their mental aberration.
3. 154 patients received complete otolaryngologic and audiometric evaluation.
4. 5.1% or eight mentally ill patients were found to have handicapped hearing with a speech frequency average hearing loss of greater than 30 decibels in the better ear.
5. 7.69% or twelve mentally ill patients were found to have significant otolaryngologic disease.
6. Hearing loss per se does not appear to be a statistically significant variable in the study of the mentally ill.
7. The addition of the services of an otolaryngologist seems well advised in the rehabilitation of the mentally ill.

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Individual Air Conditioner

An individual air conditioner providing cool, clean air for workers exposed to heat is being used routinely on certain jobs in industrial plants in the southern United States. The simple, low-cost device is described by W. F. Lienhard, M.D., San Diego, Calif., J. P. Hughes, M.D., Oakland, Calif., and T. A. Brassette, M.E., New Orleans, in the September Archives of Environmental Health, published by the American Medical Association.

It could be particularly helpful for workers whose tolerance for heat has been reduced by aging, heart disease, or other physiological impairment.

Comparable observations on acclimatized workmen with and without the device during periods of identical work in a severely hot environment resulted in a threefold reduction in heat loss, a 25 per cent reduction in total heart beat, and a 50 per cent reduction in the rate of body temperature rise for the air-conditioned man.

The entire weight of the personal air-conditioner is only 19 ounces. The air is cooled by a vortex tube, invented in 1931 by a French metallurgist, George Ranque. Standard industrial compressed air is delivered through a hose to the tube attached by a belt to the man's waist. The tube converts compressed air at 120 degrees Fahrenheit to a steady flow at 65 F.

The tube develops a hot and a cold stream of air. The hot air is exhausted into the atmosphere while the cool air is supplied over the upper part of the body through perforated flexible plastic tubing worn beneath the worker's shirt. The cool air, which is of breathing quality, also may be dispersed through a semi-rigid funnel into a fabric hood and vest, both worn over the shirt. The air escapes easily through the clothing and from beneath the fabric hood.

Each worker has a "breakaway" coupling so he can detach himself from the air supply hose simply and quickly in case of danger. Hoses 150 feet in length provide the worker a high degree of mobility.

The vortex tube also has the potential application for body warming during work in extreme cold by adding an air mixing valve to vary the proportions of hot and cold air streams. In this way, output air between 65 and 80 F can be obtained when the temperature of input air varies as widely as -20 F up to 130 F, they said.

None of the earlier systems proposed for individual air conditioning has been widely adopted in industry because in general they have been too complex and too costly for day-to-day use on most jobs. Vortex tube units with accessory equipment are commercially available. The vortex tube alone costs less than \$75.

Report on Fluoridation for Richmond, Virginia

A Ten Year Evaluation

WINSTON W. FRENZEL, D.D.S., M.P.H.

PETER A. TRIANI, D.D.S.

Richmond, Virginia

Ten years of fluoridation in Richmond has produced a gratifying improvement in the dental health of the school children.

THE CITY OF RICHMOND was one of the first municipalities in the State of Virginia to undertake a program of controlled fluoridation of a community water supply. Sodium-silico-fluoride at 1 ppm was added to the city water supply on November 10, 1952. The State Department of Public Health was directed to conduct periodic surveys to determine the effect of the fluoride in reducing dental caries in the city's population.

Baseline Survey

In April 1953, an initial survey was made to establish a baseline of dental caries experience among school children which could be used for comparison in evaluating the effects of fluoridation. Significant deviations from the baseline, as determined subsequently in similar surveys, would be regarded as a measure of the effect of the fluoride additive.

This article has been written for publication in the "Virginia Medical and Dental Journals," at the request of the Commissioner of Health of the State of Virginia. This article contains greater detail and data than the official report given in July, 1963, to the City Health Department, Richmond, Virginia. The July report did not have authorship noted. It was a documentary report for the use of the City Health Department.—Mack I. Shanholtz, State Health Commissioner

The children selected for the baseline survey numbered 10,121 and ranged in age from 5 to 18 years. Sixty percent were white and 40 percent non-white, a ratio approximating that of the total population of the city. Included were students from eight elementary schools, one junior high school, and four senior high schools.

A total of 68 dentists participated in the survey. The services of 60 dentists were acquired through the local dental society; eight dentists were assigned to the survey from the Division of Dental Health, Virginia State Department of Health.

Post-Fluoridation Survey

In November 1962, 10 years after the beginning of fluoridation in Richmond, a follow-up survey was made to assess the results. Dental examinations were conducted on children ages 5, 6, 7, 8, 9 and 13, in 23 Richmond public schools judged to be representative of the city schools as a whole. A total of 10,523 students were included. Eighty dentists, 68 from the local dental society and 12 from public health agencies, conducted the examinations.

Although all children in the specified age groups were examined, it was determined that only the findings for those who had been continuous residents of Richmond for the preceding 10 years would be used for comparison with the baseline data. A child was considered to be a continuous resident if he had not been absent from the area served by the Richmond municipal water supply for a period of more than 90 days in any one calendar year.¹ Children five years of age were also excluded because they had

too few erupted permanent teeth to permit a valid analysis of the findings.

Optimal results from fluoridation are dependent upon the maintenance of a constant level of fluoride at the appropriate parts per million.² In Richmond, a record was kept of the levels of fluoride delivered by the water supply during the 10 year period. At no time was the level below one part per million for a period greater than 90 days. The average monthly levels are shown in Table 1.

The methodology used in these surveys is adequate for demonstrating the over-all effects of water fluoridation in reducing dental caries. However, it should be kept in mind that both surveys did employ multiple examiners, many of whom were inexperienced in survey work, and that random selection was not used in determining the samples of children to be examined. Thus, while over-all differences in the findings between the samples may be accepted with reasonable confidence, apparent differences

TABLE 1
AVERAGE MONTHLY FLUORIDE RESIDUAL—RICHMOND CITY
November 1952-May 1962

	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
January.....		1.0	1.0	1.06	0.815	1.0	0.9	1.0	1.0	1.01	1.0
February.....		0.93	0.91	1.08	0.77	0.9	0.1†	1.0	1.0	1.0	1.0
March.....		1.0	1.05	1.1	0.63	1.85	1.97	1.9	1.09	1.0	1.0
April.....		1.0	1.1	1.14	0.72	0.9	1.01	1.0	1.0	1.0	1.0
May.....		1.1	1.14	1.13	1.06	1.05	1.02	N.R.	1.0	0.98	1.0
June.....		1.07	0.85	1.16	1.06	0.83	1.08	0.98	1.1	1.0	1.0
July.....		.94	1.0	1.11	0.79	0.92	0.87	1.06	1.05	1.0	1.0
August.....		1.04	1.08	0.95	0.97	0.92	1.02	1.14	0.96	1.06	.87
September.....		1.24	1.08	0.99	1.1	0.95	0.99	1.05	0.94	1.0
October.....		1.11	1.1	0.89	.99	0.98	0.45§	1.06	1.0	1.0
November.....	0.62*	0.99	1.04	0.86	.98	0.91	0.59	1.1	0.9	1.0
December.....	1.1	1.06	1.0	0.86	1.0	0.95	1.0	1.06	1.0	1.0

N.R.—No report.

*Treatment started 10 November 1952.

†Machine out of operation 25 days.

§Machine out of operation 5 days.

Examination Procedures

In the post-fluoridation survey every attempt was made to reproduce the conditions and procedures of the baseline survey. Prior to both surveys the examiners met to become familiar with the criteria established for examinations, the record form, and the procedures to be followed. Each examiner was assigned assistants from among Parent-Teacher Association volunteers.

In making the examinations the dentists used #4 plane mirrors and #23 dental explorers in the best available natural light. The assistants recorded the data, sterilized instruments and directed the flow of children to the examiners. School nurses, principals and teachers completed residence history forms for each child examined.

between subgroups are more subject to error and must be viewed with caution.

Study Findings

A comparison of the levels of decayed, missing and filled permanent teeth (DMF) of children surveyed in Richmond in 1953 and of continuous residents surveyed in 1962 is shown in Table 2. The data indicate that reduction in caries experience occurred in each age group for both white and Negro children. For the white children the decreases ranged from 28.9 percent for the 13-year-olds to 50.0 for the 6-year-olds. The reductions for Negro children were generally greater, ranging from 40 percent for 6-year-olds to 62.8 percent for 9-year-olds. In reviewing the variations in the individual D, M, and F data of Table 2 the striking

differences in the F component between white and Negro children should be noted. Filled tooth rates are substantially greater

of permanent dentition formation. This finding is supported by the work of Klein and others who found that children do not

TABLE 2
DMF TEETH RATES AMONG SCHOOL CHILDREN, BY RACE AND AGE

AGE	1953					1962					Percent Decrease in DMF Teeth Rate 1952-1953
	Number of Children	AVERAGE NUMBER OF TEETH				Number of Children	AVERAGE NUMBER OF TEETH				
		D	M	F	DMF		D	M	F	DMF	
						White Children					
6.....	756	0.45	0.01	0.10	0.56	612	0.23	*	0.50	0.28	50.0
7.....	488	0.93	0.01	0.37	1.31	647	0.53	0.00	0.26	0.79	39.7
8.....	460	1.17	0.08	0.96	2.21	612	0.74	0.01	0.53	1.28	42.1
9.....	472	1.25	0.16	1.22	2.63	541	0.78	0.05	0.79	1.63	38.0
13.....	515	2.70	0.49	3.52	6.71	327	1.51	0.32	2.94	4.77	28.9
						Negro Children					
6.....	293	0.42	0.02	0.01	0.45	766	0.24	0.02	0.01	0.27	40.0
7.....	279	1.12	0.10	0.01	1.24	787	0.46	0.02	0.01	0.48	61.3
8.....	275	1.63	0.16	0.07	1.86	688	0.70	0.02	0.01	0.73	60.8
9.....	256	1.96	0.49	0.07	2.53	639	0.85	0.06	0.03	0.94	62.8
13.....	452	5.56	1.43	0.21	7.20	530	2.34	0.65	0.16	3.15	56.3

NOTE: DMF component rates may not add to total due to rounding.

*= < 0.005.

for white than for Negro children at each age level. (See discussion)

have to be born in a fluoride area to experience the protection associated with residence

TABLE 3
CARIES-FREE CHILDREN, BY RACE AND AGE

AGE	NUMBER EXAMINED		PERCENT CARIES-FREE			
			Deciduous	Dentition	Permanent	Dentition
	1953	1962	1953	1962	1953	1962
White						
6.....	756	612	22	35	78	84
7.....	488	647	18	31	49	64
8.....	460	612	12	30	25	48
9.....	472	541	18	28	22	35
Negro						
6.....	293	766	24	43	71	85
7.....	279	787	16	42	54	77
8.....	275	688	16	70	35	66
9.....	256	639	19	39	22	60

Both white and Negro children 13 years of age experienced substantial reductions in dental caries experience although they had not consumed fluorides in the early period

in the area, but that the earlier the age of introduction to fluorides and the longer the exposure, the greater the protection experienced.³

An increase in the percentage of caries-free children is also evident in both racial groups at each age level (Table 3). Again the increase is greater for Negro children than for white children.

There has been a substantial decrease in the proportion of white school children in Richmond since 1952 (Table 4). Thus, to present a proper comparison between the 1953 and

caries prevalence is not marked at earlier ages, beyond age 9 years the difference among racial groups becomes clearly apparent." The data in this study showed no real differences in DMF rates between white and Negro children at the time of the baseline survey but did show a substantially greater decrease in these rates for Negro than for white children after fluoridation.

Szwejda has reported greater reductions in DMF for Negro than for white children in Charlotte, North Carolina.⁵ White children of Washington, D. C., were found to have consistently greater caries experience than Negro children, both prior to and after 10 years of fluoridation.⁶

Knutson reported that a survey of Baltimore children showed a racial difference in caries experience but he detected a bias in the white sample apparently resulting from differences in the receipt of dental treatment by white and Negro children.⁷ Sebelius found that the white children in 24 countries of Tennessee had higher DMF rates than

TABLE 4
PERCENT WHITE CHILDREN IN RICHMOND SCHOOLS, BY AGE

AGE	PERCENT WHITE CHILDREN	
	1952	1962
6.....	72	44
7.....	64	45
8.....	63	47
9.....	65	46
13.....	53	38

1962 DMF data for all children combined, it is necessary to adjust the population examined in 1962 to the 1953 racial distribution. This adjustment has been made in

TABLE 5
DMF TEETH RATES AMONG SCHOOL CHILDREN, BY AGE,
ADJUSTED FOR RACIAL DISTRIBUTION

AGE	1953		1962		Percent Decrease 1962-1953
	No. of Children	Average No. of DMF Teeth	No. of Children	Average No. of DMF Teeth*	
6.....	1,049	.53	1,378	.28	47.7
7.....	767	1.29	1,434	.68	47.5
8.....	735	2.08	1,300	1.07	48.4
9.....	728	2.59	1,180	1.39	46.4
13.....	967	6.94	857	4.01	42.2

*The figures in this column have been adjusted to eliminate any possible differences due to the shift in the proportion of white to Negro children between 1953 and 1962.

Table 5. The percentage reduction in caries experience for the combined group are remarkably consistent, ranging from 42 to 48 percent.

Discussion

Lower average DMF rates in Negro than in white children were noted early by Klein⁴ who wrote, "Although the difference in

did Negro children. However, consistent with the findings for Richmond, the white children had eight times as many fillings.⁸ Thus, while the greater reductions in DMF rates for Negro than for white children observed in Richmond may reflect greater benefits from fluoridation, they may also have resulted wholly or in part from differences in levels of dental care received.

Summary

Community water fluoridation was begun in Richmond in 1952. Early in 1953, a survey of caries in the city's school children was made to provide a baseline for future evaluation of the benefits. The fluoride concentration in the Richmond water supply has been adequately maintained at the recommended level. In 1962 the first follow-up dental survey was made. A comparison of the survey findings with baseline data reveals that substantial reductions in the dental caries experience of school children have occurred since fluoridation was instituted.

The data indicate that for children 6-9 years of age who have been continuous residents of Richmond since birth, the protection afforded by fluoridation has resulted in about 57 percent fewer DMF teeth. There is some evidence that Negro children may have benefited more from the measure than white children.

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New Drugs and the Practicing Physician

The conditions of practice are different from the conditions of the research ward, and the trial the drug undergoes at the hands of the practicing physicians is more stringent than anything that has gone before. Thus, the conditions of practice will uncover weaknesses in the patients treated which are vulnerable to the effects of particular drugs and which, because they had not been reported before, might be labeled as "unusual" reactions.—Harry F. Dowling, M.D., in *Maryland State Medical Journal*, 13: 12, (Dec.) 1964.

Correspondence

American College of Surgeons.

To the Editor:

I wish to support Dr. William R. Sandusky's conclusion (see Guest Editorial in February Monthly) that a State Chapter of the American College of Surgeons will be good for surgery in Virginia. There is a good surgical society in Virginia; however, surgical specialists are not eligible for membership in this organization. Over forty-five percent of the membership in the American College of Surgeons are surgical specialists, and at present many of these specialists are not represented by any surgical society in Virginia. There are a few State specialty societies, namely, one for Otolaryngologists and Ophthalmologists, another for Gynecologists and Obstetricians, and another for Orthopedists.

The idea of a chapter is not new. There are now sixty-four chapters organized and others in various stages of organization. Most of these are state chapters, but some are organized in foreign countries, such as Argentina. In some states, there is no need for a chapter because in those states a strong surgical society that accepts surgeons of all specialties obviates the need for a college chapter.

The primary objectives of the American College of Surgeons are to improve the quality of care of the surgical patient and to elevate the standards of surgery. To accomplish these goals, the College has developed an effective organization, and it may come as a surprise to some to learn how much is done at the local and state level. For example, there are District Committees on Applicants who gather and pass on facts regarding applicants to a State Credentials Committee, whose recommendations regarding an applicant are passed on to the Central Credentials Committee. Each state has an Advisory Committee organized by the

Board of Regents of the College which has three main purposes: to nominate Governors-at-large from the state; to advise the College about any local surgical problems; and to assist in the investigation of facts with respect to disciplinary matters. Each state also has a Trauma Committee organized by the powerful Committee on Trauma of the College. This is an autonomous committee and has no authority in Chapter affairs. In Virginia, these last two committees have been quite inactive for some time.

Virginia has only one Governor-at-large because it has less than three hundred Fellows of the College. There are at present two more Governors in Virginia, but they represent specialty societies. It is expected by the College, however, that each Governor will effectively carry out the goals of the College at the state level.

College Chapters are organized under the guidance of the Governors from the various states and specialty societies. The Chapters are chartered by the Board of Regents and they can report directly to the Board of Regents through the assistant director in charge of the professional relations department. Chapters elect their own officers and council from the Fellows within the state and without regard to surgical specialty. Chapter presidents are welcome at all meetings of the Board of Governors. In fact, at the last meeting of the Board of Governors in Chicago, twenty-eight Chapter presidents or their representatives were present. Governors are ex-officio members of the councils of the Chapters and it is through these close connections that liaison exists between the Fellows and the Board of Regents.

In addition to the advantages as outlined by Dr. Sandusky concerning scientific sessions and the maintenance of ethical standards, the College influence extends into other surgical affairs at the local and state

level. For example, at the last meeting of the Board of Governors, a recommendation was put forth, which has to be acted on by geons in respect to acceptable surgical training the Board of Regents, that a brochure be made available to the board of trustees of all hospitals to familiarize them with the position of the American College of Surgery and ethical practice. Several State Chapters, particularly the New Jersey Chapter, have taken quite an interest in panel discussions of the relationship of the surgeon, the administrator, and the hospital trustee. Another matter of considerable concern to the Governors recently has been the standards of selection and training of operating room technicians. Recommendations have been prepared by a committee of the Board of Governors, which has to be acted on by the Board of Regents in February before it can be referred to the Joint Commission on Accreditation of Hospitals. It was the North Carolina Chapter of the College of Surgeons that sparked the interest of the Governors in this problem just two years ago.

The formation of a potent Chapter in Virginia would do much to disseminate the

influence of the American College of Surgeons for the good of surgery in Virginia. Conversely, the College would get to know more about the Fellows in Virginia through their participation in a State Chapter.

EUGENE F. POUTASSE, M.D., F.A.C.S.
Governor, representing the American
Urological Association

"Good Samaritans"

To the Editor:

I am a pediatrician practicing alone in Charlottesville, Virginia. I have been ill for a number of months. When my associates found that my illness would last longer than a month, they offered to spend a part of each day in my office (in rotation) to help my secretary hold together my practice.

Their initial idea came from an article in Medical Economics. This act of kindness had been of inestimable help to me and added to the spirit of cooperation of all doctors in this community.

If you will give this wide publicity, I think, it will elevate our status in the minds of the laity.

WILLIAM H. WOOD, JR., M.D.

Double-Blind Method—Short Cut to Nowhere?

The double-blind method is an expensive device (expensive in terms of the cost in effort and of the low yield of information) used in the hope—often the vain hope—of obtaining a quick answer to the simple question of a drug's effectiveness in restricted circumstances. It can be justified only as a means to be used by understaffed and overworked government agencies who have been given the impossible task (written into law by well-meaning but ill-informed legislators) of stating which drugs are effective and which are not. In the evaluation of drugs, or of anything else in medicine, there is no substitute for extensive minute observations made closely, continuously and for long periods under conditions as much like those of ordinary practice as possible.—M. D. Altschule, M.D., in *Medical Science*, 15: 12, (Dec.) 1964.

G. S. FITZ-HUGH, M.D.
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The Uses of Esophageal Prostheses in the Management of Patients with Carcinoma

In this section in the past, the various phases in the diagnosis and treatment of cancer have been recorded. The present presentation has to do with a method of decreasing the morbidity of those patients encumbered by complications following neck surgery and, perhaps more important, to improve the comfort of those patients who have been treated for carcinoma of the neck with irradiation and surgery without success in the control of the neoplasm, and who have as a result developed an external fistula. Uncontrolled carcinoma is often found in the area of the fistula with further efforts in the way of definitive treatment considered useless. Lethal exodus in this type of patient may be delayed for a long period of time with interim nursing care being quite trying for the patient and the family.

A method which offers improvement in the management of these fistula problems is presented. This procedure was first brought to the attention of the author by its use in a patient by Drs. Gill and Middleton of Richmond.

In 1963, Montgomery described a molded plastic tube which he found advantageous in the reconstruction of the cervical esophagus. Its shape and consistency has led to its usefulness in the aforementioned conditions. We have found by experience that this prosthesis is extremely well tolerated by the mucous membranes of the hypopharynx and esophagus for an extended period of time.

Two incidences will be presented as examples in which the plastic esophageal pros-

thesis (Montgomery) has been utilized to decrease the morbidity and increase the well being of the patient to the satisfaction of all concerned—patient, family and surgeon.

The first case is that of a patient who was treated without success by irradiation for a carcinoma of the larynx. Subsequent wide-field laryngectomy was complicated by excessive bleeding, soft tissue necrosis and development of a pharyngocutaneous fistula. The usual nasal feeding tube, frequent dressings and decreased ambulation resulted. Later, the esophageal prosthesis was inserted into the hypopharynx. The lumen of the plastic tube permitted the passage of secretions, etc., into the lower esophagus bypassing the fistula, thus reducing the need for frequent dressings, encouraged healing, increased ambulation and reduced morbidity in general. The nasogastric tube was passed through the lumen; later even this was removed and the patient was permitted to ingest soft food and drink directly through the prosthesis. After the fistula had healed, the prosthesis was removed.

The second patient is one who developed a large pharyngocutaneous fistula secondary to necrosis of the tissue and incorporated carcinoma. The area was unsightly. Wound dressings were always saturated with secretions and a nasogastric tube was necessary for feeding purposes. The plastic esophageal tube was placed in the hypopharynx and esophagus. The fistula was blocked by the tube, thus decreasing the need for frequent dressings. Ingestion of liquids and soft material was accomplished by way of the lumen of the prosthesis. Plans are to leave the prosthesis in indefinitely. By the use of this procedure, the patient was converted from one requiring hospitalization to an

From the Department of Otolaryngology, University of Virginia Hospital, Charlottesville, Virginia.

outpatient who returned periodically to the clinic for observation.

In both of these patients, the prosthesis was used without discomfort. Direct inspection showed no unusual mucous membrane reaction even after a prolonged (weeks) period of contact of plastic and tissue.

A comparable type of prosthesis (Mackler) varying in size has been found useful in establishing a serviceable artificial lumen in the mid and lower esophagus which has been partially occluded by carcinoma.

In the first illustration, the upper tube is the one devised by Montgomery. It is 19.5 cm. in length. The diameter of the upper

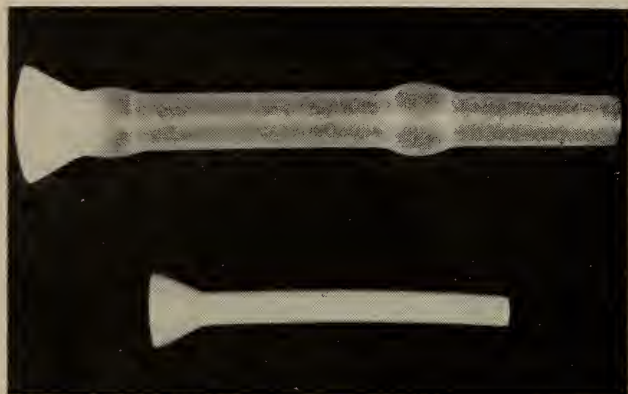


Fig. 1. Upper—Montgomery Prosthesis
Lower—Mackler Prosthesis

flanged or expanded end is 3.0 cm. and the lower 1.5 cm. The consistency is pliable, but not enough to fail to exert the proper resistance to preclude collapse of the lumen, thus eliminating its value.

The manufacturer of the esophageal (Montgomery) prosthesis is Thomas Fazio Laboratories, Auburndale, Massachusetts.

The second illustration demonstrates a patient with a fistula leading into the posterior tracheal stoma. It has been blocked by an indwelling prosthesis (Montgomery).



Fig. 2. Patients with tracheal stoma fistula blocked by Montgomery esophageal prosthesis.

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EDWIN S. ZOLIK
EDNA M. LANTZ

Patient Return Rates to Two Mental Hospitals

In the past decade hospital procedures have undergone many innovations. Programs such as the open door policy, milieu therapy and patient government have been introduced, in part, to forestall the development in mental patients of institutionalism which is considered as increasing the difficulties of patients to make satisfactory adjustments in the community upon release. The increasing use of psychoactive drugs also has made it possible to release patients more quickly—very often as soon as the patient was considered stabilized on a drug regime.

The impact of these innovations has been so intense that value-oriented terms have become fashionable in contrasting the old procedures with new innovations. The older traditional conservative procedures have been labelled as custodial, authoritarian, and staff oriented with the subsequent development of a "bad" connotation. The new innovations have become characterized as liberal, humanistic, progressive, patient-oriented with the connotation of being "good". Very little has been attempted in a systematic manner to contrast the effect of both types of procedures on patients—partly because of difficulties in locating highly comparable institutions and partly because clinical judgment appeared to have been vindicated by the more rapid turnover of patients.

EDWIN S. ZOLIK, PH.D.: *Project Co-Director, Northern Virginia Mental Health Project, and Chairman, Department of Psychology, De Paul University, Chicago, Illinois.*

EDNA M. LANTZ: *Statistician, Department of Mental Hygiene and Hospitals, Richmond.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

This paper is concerned with an analysis of the return to the hospital of patients who were placed on a one-year trial visit or furlough status from two contrasting State mental hospitals. A return to the hospital is a failure to successfully complete the trial visit period and can be employed as a partial index of the effectiveness of a hospital treatment program given a large enough patient population so that individual variations in patients can be assumed to become balanced or equalized.

The two hospitals selected are highly comparable except in their philosophy of patient management; Hospital A has been characterized as an open hospital with a liberal release policy and as having various therapy-oriented programs, whereas Hospital B is regarded as traditional and conservative in its orientation with a slower release of patients. The treatment program in both hospitals is based primarily on pharmacotherapy.

The base population served by both hospitals is highly comparable in number and in terms of rural-urban balance. In 1960, Hospital A served a population of 1,200,000 persons and Hospital B served 1,500,000 persons. In 1960, the rate of patient residence in the hospital per 100,000 of the base population was 192 patients for Hospital A and 180 patients for Hospital B. Although the rated bed capacity for Hospital A is 2,000 and for Hospital B 2,300 patients, the average daily patient populations were 2,313 and 2,889 patients respectively. Both hospitals admit only white patients.

The only major difference between the two hospitals after the differences in the medical philosophy of patient management is in the number of staff. The staffing ratios are as follows:

	Hospital A	Hospital B
Physicians	1:112 Patients	1:211 Patients
Nurses	1: 59 Patients	1:114 Patients
Attendants	1:4.9 Patients	1:5.2 Patients

To compare the hospitals in terms of the percent of patients not successfully completing their trial visit, data was developed for the fiscal year, July 1, 1961, to June 30, 1962, on the number of patients by diagnostic category and sex returning to the hospital within specified time periods. The time intervals specifying the number of days out of the hospital on furlough status prior to returning were: 7-13 days, 14-29 days, 30-59 days, 60-89 days, 90-179 days, 180-364 days. Patients returning within six days were excluded as many of these patients are released because of illness or death in the family, or on limited leaves—both of which do not constitute a bona fide furlough. Small time intervals were selected for the first part of the furlough period as clinical evidence indicates this period of the furlough to be of extreme importance.

Alcoholics were the only diagnostic category excluded from this study as the data below confirm observations that alcoholics are released on different bases: Hospital A releasing a very large number of alcoholics on furlough status, and Hospital B releasing alcoholics with a full or direct discharge from the hospital rolls.

During the year, 1,224 patients returned from furlough to Hospital A. Out of this group, 201 patients returned in six or less days and 320 furloughees were diagnosed as alcoholics. The remaining 703 patients comprise the patient sample from Hospital A employed in this study.

There were 606 patients returned from furlough to Hospital B, of which 52 returned in six or less days and 22 were diagnosed as alcoholics. The resulting patient sample from Hospital B consists of 532 patients.

The percent of patients returning to each hospital was computed for each time inter-

val in terms of diagnostic categories and sex prior to computing percentages on the total patient samples and cumulative percentages for the furlough year.

Results and Discussion

Figure 1 portrays the curves for the cumulative percent of furlough patients returning to each hospital within a year. The percent of patients returning to the hospital within the first 30 days of furlough is considerably greater for Hospital A than Hospital B. For Hospital A more than 50 percent of the patients do not complete one month on furlough status, whereas for Hospital B more than 50 percent of the patients remain out of the hospital for more than a month. At the beginning of the second month of furlough, 48.7 percent of the patients from Hospital A as compared with 39 percent of the patients from Hospital B were still in the community. After the first month of furlough the curves for both hospitals parallel each other.

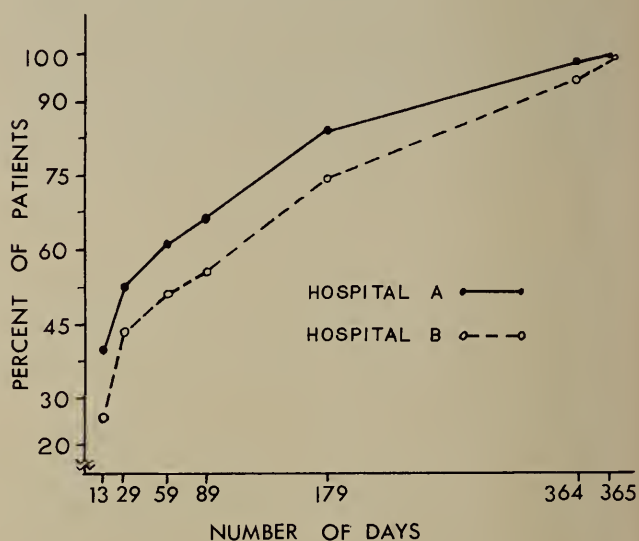


Fig. 1. The cumulative percent of furloughed patients returning to Hospital A (N = 703) and Hospital B (N = 532) within specified time limits. The 365 day period extends beyond the immediate furlough period during which patients who had their furlough extended returned to the hospital.

As patients with functional psychoses comprise a major patient group, similar cumulative percentage curves were computed for patients with a diagnosis of schizophrenia or manic-depressive psychoses (Fig-

ure 2). To avoid problems inherent in differential diagnosis between institutions these two diagnostic patient groups were combined into a single group. The curves in Figure 2 are similar to those in Figure 1. For Hospital A more than 50 percent of the functionally psychotic patients return in less than a month, whereas for Hospital B more than 50 percent of the patients are still in the community at the end of the first post-hospital month. Further, at the beginning of the third furlough month only 39 percent of the patients from Hospital A as compared with 52 percent of the patients from Hospital B were still in the community. Also, between the first and fourth month the rate of return of patients to Hospital B is less than to Hospital A.

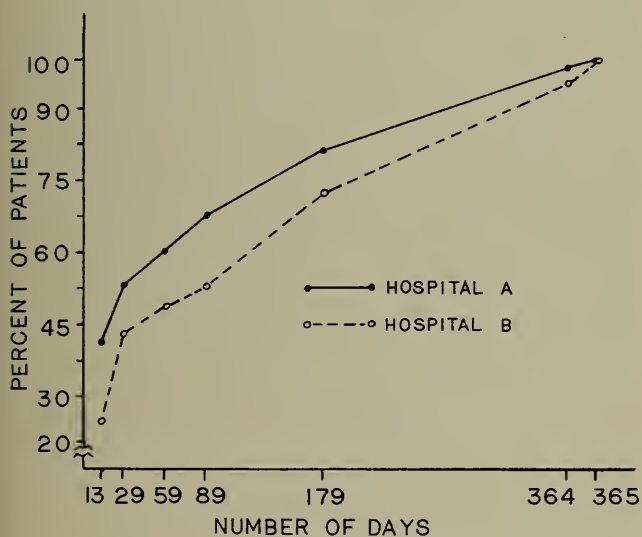


Fig. 2. The cumulative percent of furloughed functional psychotic patients returning to Hospital A (N = 419) and Hospital B (N = 349) within specified time intervals. The 365 day period extends beyond the immediate furlough period which patients who had their furlough extended returned to the hospital.

A review of the various diagnostic categories of the patients returning to both hospitals revealed no significant deviation from the expected distribution for any diagnostic group starting with the 7-13 day period. A comparison of the patients by sex for the two hospitals indicated relatively similar proportions of men and women; in each hospital the percent of patients returning within each of the different time intervals was similar between the sexes. These

data indicate that the sex of the patient did not have any differential effect in the return of the patient nor was there any apparent interaction between sex of the patient and type of hospital influencing the outcome of the trial visit or furlough.

Other available data show that during the same 1961-62 interval Hospital A placed 1,636 patients on trial visit as compared to 939 patients by Hospital B, or 1.75 more patients. Of the 1,636 patients placed on trial visit by Hospital A, 936 patients returned in the same time interval (1961-1962) resulting in a rate of 1.75 patients furloughed per returnee. For Hospital B, 572 patients returned out of a total of 939 patients furloughed resulting in a rate of 1.64 patients furloughed per returnee.

In terms of absolute numbers, 700 patients

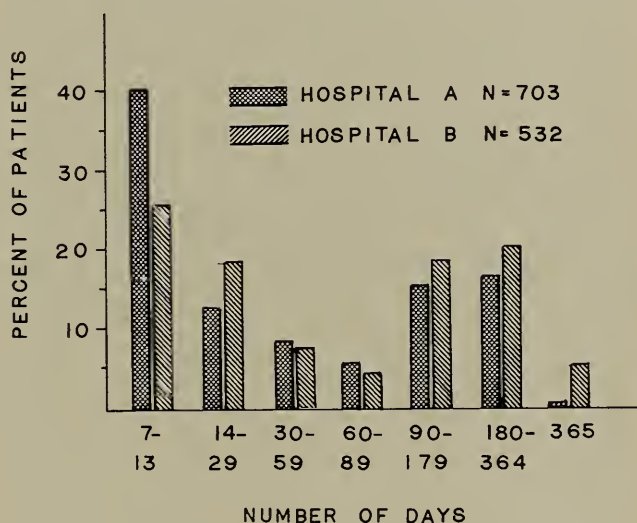


Fig. 3. The percent of furloughed patients returning to the hospital within each specific time period during the furlough year.

placed on trial visit by Hospital A were still in the community at the end of the fiscal year in contrast to 367 patients from Hospital B. The increased number of patients placed on trial visit and the return rate suggest that the relative risk of return was not increased for Hospital A patients. However, the difference in the number of patients released on trial visit appears to be more parsimoniously accounted by the greater number of professional staff at Hospital A rather than due to differences in the patient management philosophy between the

two hospitals. Hospital A has a 100 percent smaller ratio of patients to physicians and nurses, which makes it possible to process a greater number of patients in a given period of time.

The results portrayed in Figures 1, 2 and 3 indicate that during the first two weeks following placement on trial visit the risk of return to the hospital is considerably higher for patients from Hospital A than for Hospital B. For both hospitals, and more so for Hospital A, the risk is greatest for the first thirty days than for any other period of similar length. After the first month the differences between the two hospitals (Figure 3) are slight.

The higher return rate for Hospital A patients during the first month of trial visit appears to be due in part to the more liberal and thereby possibly less rigorous policies for placing patients on trial visit. Other factors that may be involved are: (a) too rapid release of a number of patients prior to complete stabilization of the chemotherapeutic regime and acceptance by the patient of the need to remain on the prescribed medication, and (b) the adequacy of pre-trial visit planning which due to the sizeable number of patients involved possibly results in an overloading of a limited social work staff. These data, of course, do not give any clues as to which factors may be operating or to what extent.

The results indicate that regardless of the type of medical philosophy in the hospital or the size of the hospital staff, the hospital program has to be complemented by a community program which provides effective after-care services and which achieves contact with the patient in the first few days of the furlough period. The high percent of patients returning to the hospital in the first month suggests that much of the work of

the hospital is undone by the failure of community mental health clinics to develop programs for these patients. This is reinforced by the fact that Hospital A did have a limited follow-up program in which hospital personnel traveled to various communities for monthly follow-up appointments with their patients. The percent of patients returning to Hospital A suggests that a hospital-based follow-up service cannot provide the necessary continuous contacts and that it should be regarded as an emergency measure resulting from the failure of communities to establish effective hospital-community liaison.

Conclusions and Summary

On the basis of the percent of furloughed patients returning to the hospital there does not appear to be any advantage for post-hospital outcome of a medical philosophy in the hospital that is liberal, and permissive as contrasted with a traditional conservative philosophy. The results do indicate that patients from the liberal permissive hospital may be released too soon in view of the greater percentage of furlough failures in the early phase of the furlough period.

The results indicate that value labels applied to hospitals with different medical philosophies are expressions of personal preferences—often an attempt to include oneself as part of the avant-garde—and should not be employed in place of objective evidence regarding the effect of a program or philosophy if we are to maintain a scientific orientation.

Finally, these results point to the need for systematic controlled or cohort studies on the effect of differing hospital management philosophies as they affect patient welfare both during the period of hospitalization and with regard to post-hospital outcome.

Platelet Disorders

The function of the platelets is an important one since these, the smallest of the formed elements of the blood, participate in each of the three mechanisms of hemostasis. They agglutinate, thus providing an effective plug for the disrupted vessel endothelium; they initiate the clotting process by participating in thromboplastin release and finally they effect vaso-constriction in injured vessels.

The ability of the platelets to perform in such a diverse manner is due in part to their associated activity. At least nine separate activities within and without the platelet have been described. Most of the activity is adsorbed from the plasma in the so-called "aura" or platelet atmosphere and can be removed by repeated washings, hence the likening of the platelet to a sponge.

Activities have been designated by number. Platelet Factor 1 is thought to be the labile factor (Factor V) and participates in the conversion of prothrombin to thrombin. The second factor (Platelet Factor 2) participates in the acceleration of the fibrinogen to fibrin transformation. The acceleration of thromboplastin formation is effected by way of the platelet phospholipids (Platelet Factor 3). These latter have thromboplastic activity similar to that of the lipid activity found in brain, soyabean, and egg yolk. Once a significant amount of such platelet material is released, intra-vascular coagulation may occur. The antiheparin effect of Platelet Factor 4 is demonstrated when the platelet count is low. In this instance, there is increased sensitivity to heparin.

In addition to the above factors, serotonin released from within the platelets brings about a temporary state of vaso-constriction.

The usual defect associated with platelets is one of number, i.e., quantitative, since a count less than the "minimum hemostatic

level" of approximately 50,000/mm³ may predispose to bleeding. There are a vast number of conditions where thrombocytopenia may be found. Such disorders will not be discussed in this paper but rather the less commonly encountered ones—those where bleeding may be due to a functional or qualitative defect.

Qualitative platelet disorders may be divided into two groups depending upon whether the platelets themselves are involved or whether there is an associated plasma or serum defect. Those defects involving the platelets where there appears to be a deficiency of thromboplastic material (Platelet Factor 3) have been labelled *thrombocytopathy*. The condition is inherited as a simple dominant characteristic and therefore a positive family history may be elicited. It manifests itself by a prolonged bleeding time. In this condition Platelet Factor 3 activity is normal but there is a faulty disintegration and releasing of this activity. Sonic oscillation of platelets obtained from patients with this type of disorder will release the activity and thus return the abnormal thromboplastin generation test (T.G.T.) to normal. There is also some evidence that such platelets are abnormal from a morphological standpoint since both giant and micro forms have been found to have low Platelet Factor 3 activity. Ultra-microscopically platelets from patients with such a disorder are not in the normal dendritic, but the spread form. Pseudopodia are formed but do not disintegrate. Instead the platelets form large composites. This latter phenomenon is known as viscous metamorphosis.

A second qualitative condition affecting the platelets is known as *thrombasthenia*. This particular defect consists of defective clot retraction, poor pseudopod formation and lack of hyalomere spreading. The hyalomere is the "cytoplasm" of the platelet.

As a result, there is interference with platelet adhesiveness. Clinically the bleeding time is prolonged but as opposed to the previously mentioned condition, the T.G.T. is normal since Platelet Factor 3 activity is normal.

When there is a combination of the two above defects the condition is called *thrombocytoasthenia*.

Rarely, associated forms of the disease have been encountered. These vary according to whether the defect is associated with deficiencies of Factor VIII (Antihemophilic Factor) or Factor IX (Christmas Factor). Some investigators prefer to call these conditions vascular hemophilia since there is a prolonged bleeding time. No clot retraction abnormality occurs in this type of disorder. Recently it has been found that the plasma from a known hemophilic will correct the vascular component of this condition.

When the hemophilia type of disorder is accompanied by a Platelet Factor 3 defect, the platelet defect can be corrected by releasing the thromboplastic factor (either by ultrasonic disintegration or by use of an hypotonic solution). Numerous qualitative platelet disorders have been found associated with conditions such as leukemia, uremia, liver disease, post-splenectomy, thrombocythemia, polycythemia vera and multiple myeloma.

Normal thromboplastic activity in the T.G.T. may be achieved even when the platelet count is as low as 25,000/mm³. Occasionally in the associated types of conditions, it is necessary to dilute the platelets (e.g., thrombocythemia) in order to detect a Platelet Factor 3 defect.

In macroglobulinemia, with a long bleeding time, the T.G.T. is abnormal. Ultrasonic disintegration of the platelets returns the T.G.T. values to normal. Normal platelets can be made to acquire this abnormal characteristic by being placed in plasma from a patient with macroglobulinemia.

Considerable investigative effort has been

expended in the area of platelet metabolism in an attempt to explain the mechanism underlying the above platelet defects. Platelets have been found to be very active metabolically, especially in those processes related to carbohydrate metabolism. Here large amounts of adenosine triphosphate (A.T.P.) are required. The processes of viscous metamorphosis and clot retraction depend on intact metabolizing platelets and require considerable energy. Defective metabolism does not affect activities of either Platelet Factor 3 (thromboplastic) or 4 (antiheparin). In conditions of thrombasthenia where metabolic activity is reduced because of low A.T.P. levels, viscous metamorphosis and clot retraction may not take place even in the presence of normal coagulation. It is felt that the decrease in A.T.P. activity is due to decreased enzyme activity in the glycolytic cycle, the enzymes glyceraldehyde phosphate dehydrogenase and pyruvate kinase, being involved. The defect may be corrected by giving Mg++ and A.T.P.

Summary

From the foregoing discussion, it is seen that the role of platelets in the hemostatic process is of considerable importance. The investigation of any bleeding problem must take into account the possibility of a platelet defect—be it quantitative or qualitative. Alterations in the metabolic processes of the platelets have been shown to be the underlying mechanism of some of the latter defects.

REFERENCE

Henry Ford Hospital, International Symposium on Blood Platelets, Little, Brown and Company, Boston, 1960.

L. M. FISHER, M.D.

Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia

MACK I. SHANHOLTZ, M.D.

State Health Commissioner of Virginia

Some New Laboratory Services

The State Health Department operates four laboratories under the Division of Local Health Services. They provide services to local health departments, physicians, hospitals, and other health agencies to aid in the diagnosis, control, and prevention of disease. The central laboratory is located in Richmond and the district laboratories in Abingdon, Luray, and Portsmouth.

Construction was completed in 1963 of a new building in Luray to house the district laboratory that serves the Shenandoah Valley area and parts of Northern Virginia. This laboratory now offers better and expanded services to these areas.

The State Health Department's four public health laboratories make more than a half million tests annually. These tests cover a wide variety of diagnostic procedures and methods.

The volume of examinations for the diagnosis of specific diseases in the Richmond laboratory makes it practical to maintain sections or units dealing specifically with tests for a particular disease or group of diseases. The Richmond laboratory consists of the Serology, Virology, Tuberculosis, Sanitary, Enteric and General Diagnostic Bacteriology sections, and a special unit for trial and introduction of new tests in the laboratory. Following are some of the new services that have been developed.

Viral Diseases

The Central laboratory in Richmond established a virus section in 1957 just in time to give diagnostic assistance during the Asian influenza epidemic of that year by the isolation of the virus from throat washings and by the demonstration of significant

rises in antibody titer for this strain on paired blood specimens. From this modest beginning the services of the virus section have been expanded and the workers have developed considerable competence in this specialty.

Serologic tests are available on paired blood specimens for the diagnosis of psittacosis, mumps, adenovirus, lymphocytic choriomeningitis, herpes simplex, West, Eastern, and St. Louis encephalitis, poliomyelitis, influenza, rubeola, parainfluenza, respiratory syncytial, Q fever, rickettsialpox, Rocky Mountain spotted fever and typhus fever.

Isolation and identification procedures are available for the Coxsackie, ECHO, and adenoviruses and for the viruses of influenza, poliomyelitis and the encephalitis group on appropriate specimens. Viruses are very unstable at ordinary temperatures and die off rapidly unless the specimens are frozen immediately upon collection and kept frozen continuously until they reach the laboratory. Throat washings, nasal and pharyngeal swabs, spinal fluids, and stool specimens are used for the isolation of viruses.

The primary usefulness of the virus laboratory at the present time is to establish the etiology of epidemics of viral disease rather than its diagnostic value in the isolated sporadic case. Epidemic virus studies should be conducted in cooperation with the local health department. The laboratory should be notified in advance of the shipment of frozen specimens for virus isolation procedures.

Mycotic Diseases

Complement fixation tests are made on blood specimens for the systemic mycotic

infections — histoplasmosis, blastomycosis and coccidioidomycosis. Although paired blood specimens are always desirable to demonstrate infection by a significant rise in antibody titer, it is usual to test single blood specimens for evidence of these infections on the assumption that these diseases may have developed well beyond the acute phase before this diagnosis is considered. The test should be repeated if negative results are obtained on a specimen known to have been collected early in the disease.

Sputum and spinal fluid specimens are cultured for these fungi when indicated.

Parasitic Diseases

The bentonite flocculation test for the diagnosis of trichinosis is made on blood specimens from the patient. Single specimens should be submitted during the course of the illness.

Bacterial Diseases

The agglutination test for leptospirosis (Weil's Disease) is made on a single blood specimen. Repeat specimens may be indicated if the results are negative and if positive for species determination.

The fluorescent treponemal antibody (FTA) test for the diagnosis of syphilis is recommended as an aid in the solution of problem diagnostic cases. This relatively inexpensive and rapid method utilizes the principle of fluorescent microscopy and dead treponema pallidum cells as the specific antigen. This test compares very favorably with the very expensive treponema pallidum immobilization (TPI) test in the elimination of biologic false positive reactions and in the detection of present or past treponemal infection. The FTA test should be requested whenever the conventional flocculation test, usually the VDRL test, is not in agreement with the clinical findings and case history. It should not be requested for use as a guide in treatment.

The isolation and bacteriophage typing of coagulase positive cultures of staphylococ-

cus aureus has been found to be a useful tool in the investigation of staphylococcal food poisoning outbreaks and the epidemiological investigation of institution outbreaks of staphylococcal infections. The bacteriophage typing of the staphylococci is restricted to epidemiological investigations conducted jointly by a local health department, Bureau of Epidemiology, and a hospital. The ubiquity of the coagulase positive strains of staphylococci in nature make it impractical to phage type the many sporadic isolations made in the laboratory.

The most recent service offered by the laboratories is the State-wide phenylketonuria (PKU) detection program. The Guthrie bacterial inhibition test used for the detection of excessive blood phenylalanine levels in this program is simple, reliable, and adaptable to mass screening.

Recent studies have indicated that about one in 10,000 infants has high blood phenylalanine levels due to an inborn error of metabolism. Irreversible brain damage can be prevented by early detection and treatment of this condition. Special materials are provided by the State Health Department for the collection of the blood specimens for PKU.

The laboratories receive a large number of bacterial cultures for identification from other public health and hospital laboratories. This is not only an important contribution to the smaller laboratory that may lack the time, space, materials and skilled personnel to make a conclusive identification of the microorganism but it also serves as a surveillance tool for some of the rarely encountered bacterial diseases. It is not unusual to identify meningococci, pneumococci, listeria, typhoid, salmonellae, and shigella among these cultures.

Many other services are available through local and State Health Department laboratories. In addition to this, the U. S. Public Health Service offers through the State Health Department the services of its Communicable Disease Center (CDC) laboratories in Atlanta, Georgia.

Editorial

Ennion S. Williams, M.D., 1906-1965



THE TRAGIC DEATH of Dr. Ennion Skelton Williams on the evening of February 8th when a commercial plane crashed shortly after takeoff from a Long Island airport leaves a vast void in the medical, civic and cultural life of Richmond and Virginia. Dr. Williams' interests were so varied that a hasty audit, made within a few hours after the accident, cannot do justice to his many contributions.

He was born into a family that placed public service above personal gain. His father, Dr. Ennion G. Williams, was Virginia's first Commissioner of Health. Every Virginian is indebted to his tireless efforts to eradicate the communicable diseases that were endemic in Virginia during the early years of the present century. A hospital was named in his memory. His son Ennion was raised in the same tradition.

Dr. Williams was graduated from the University of Virginia in 1926 after three years of undergraduate study. He received his medical degree from the Medical College of Virginia in 1930 and spent the next three years in post-graduate training in Philadelphia. He returned to Richmond in 1933 and practiced internal medicine for one year before joining the Life Insurance Company of Virginia as Assistant Medical Director. He became Medical Director in 1938, Vice President in 1956 and Senior Vice President two years ago. He served as a medical officer in the Navy throughout World War II. Dr. Williams was nationally known in his field of medicine and in 1959 he was elected President of the Association of Life Insurance Directors of America.

His community interests were many. In 1934 he was chairman of a special committee of The Medical Society of Virginia that dealt with venereal disease. During 1952 he headed another state-wide group that studied tuberculosis in Virginia. He was a former president of the Children's Home Society of Virginia and the Richmond Tuberculosis Association. He was chairman of numerous life and health insurance committees and most recently he was the moving spirit, president and treasurer of the Virginia-North Carolina Health Insurance Association. The last article Dr. Williams wrote for the Virginia Medical Monthly dealt with this solution for old age hospital care without recourse to the federal government.

Dr. Williams, despite his busy schedule, found time for a hobby within his profession and was active in all historical matters that pertained to medicine. He was a former Chairman of the Section of the History of Medicine in the Richmond Academy of Medicine. He was treasurer of the 1957 Jamestown Medical Exhibit and served in the same capacity during the past four years for the Confederate Medical Exhibit now drawing to a close in Richmond. This was a time-consuming and frequently dull assignment but it was typical of Ennion that he gave of himself unstintingly to any task he undertook.

This devotion to duty was an outstanding trait which the Editor of the Richmond News Leader recognized in an editorial he wrote the day after the crash, which said in part—

"The vestry of St. Mary's Episcopal Church in Goochland County went into session a few minutes after 8 o'clock last night. One of the items of business was a report from Dr. Ennion S. Williams for many years a leading member of the congregation. He had been in New York for the day, but would be flying home in time to attend the meeting. About 8:20 there came a knock at the vestry's door. It was Ennion Williams, Jr., white-faced but self-contained, to say that his father would not be there: He had been killed in the crash of Eastern's Flight 663."

His father would have been proud of his son that evening for that was his idea, too, of how an obligation should be fulfilled.

Dr. Williams was active in the affairs of the Virginia Medical Monthly for many years. From January, 1949, until October, 1951 he served as Associate Editor as Dr. M. Pierce Rucker's health began to fail. He continued on the Editorial Board thereafter and was the senior member of the Publication Committee at the time of his death. His good humor, his quiet efficiency and his great capacity for friendship will be sorely missed by those of us who have been privileged to work with him.

H.J.W.

Radioactive Isotopes in Medicine

MEDICAL USE in research and practical application consumes about eighty-five percent of the radioactive isotopes produced in the world today, according to an announcement at the Third International Conference on Peaceful Uses of Atomic Energy last summer in Geneva, Switzerland. This new discipline in medicine has had tremendous impact by opening many new fields of investigation and by practical application in diagnosis and treatment. Before much experience was gained, cancer treatment with radioactive isotopes was expected to yield dramatic results. Although there are several effective uses for treatment, the most spectacular advancements have been in the field of research and diagnosis. We are familiar with the use of I 131 in the evaluation of thyroid metabolism and with P 32 in treatment of some of the blood diseases. Organ study by scanning techniques may not be as familiar to some of us but this has proved to be a most useful method, especially in the investigation of brain diseases. It is now possible to differentiate between hematomas, brain tumors and normal brain scans with a high degree of accuracy and this permits, in some cases, adequate patient evaluation without the need of encephalography, ventriculography, or arteriography. Other routine organ studies are most useful and include evaluation of the liver, spleen, thyroid, and kidneys. Their size, position, and frequently some information about their content can be determined.

Just recently, scan examination of the pancreas and parathyroid with radioactive selenomethionine, and of the lung, using aggregated iodine 131, have been described. With perfection of these techniques, comparable to those of brain scans, we can look forward to getting some answers about these silent organs (the pancreas and parathyroid). Proving pulmonary embolism by use of conventional methods has always been a most difficult problem and frequently is inaccurate but initial studies with scanning techniques have shown very promising results.

One of the best things about the use of these procedures is that so little is required of the patient and so little is done to him. Usually it is a matter of an intravenous injection and the ability of the patient to lie quietly for thirty to forty minutes. Radiation to the patient is a matter of concern to everyone. Fortunately the doses used in medical diagnosis are small; the patient receives much less radiation than is received from commonplace radiographic procedures. The use of newer isotopes that have very short half-lives will further reduce patient radiation and the continual improvement of equipment will also help in this regard.

All of these advances have come from an almost fraternal cooperation among the interested groups. The Atomic Energy Commission, manufacturers of electronic equipment, the suppliers of radiopharmaceuticals, and the physicians in research institutions have collaborated to bring a high degree of development and efficiency to an infant science. We are truly seeing a revolution in medicine as a result of this fine cooperation.

JOHN A. MARTIN, M.D.

News

New Members.

During the month of January, the following new members were received into The Medical Society of Virginia:

Robert Albanese, M.D., Norfolk
Hubert Hieronymus Blakey, M.D.,
Alexandria
Garry S. Brody, M.D., Arlington
Paul Atkinson Bryan, M.D., Alexandria
Dorman Sherman Camden, M.D.,
Collinsville
Thomas Hwayoung Chun, M.D.,
Colonial Heights
Eugene J. Conley, M.D., Alexandria
William Osborne Jones, M.D., Hampton
Archibald Carter Magee, M.D., Roanoke
Keith Wilson McNeer, M.D., Richmond
Robert Louis Murray, M.D., Roanoke
Ray Charles Otte, M.D., Hampton
Frederick Alden Phillips, M.D.,
Fredericksburg
Bernard Manuel Savage, M.D., Richmond
Jerome D. Skaggs, M.D., Hopewell
Thomas Elisha Strong, Jr., M.D.,
Roanoke
Phil E. Trimmer, Jr., M.D., Richmond

Dr. Walter A. Porter,

Hillsville, has been elected as the 121st Grand Master of the Masonic Grand Lodge of Virginia.

Dr. Joyner Named "First Citizen".

Dr. Edward C. Joyner, Suffolk, has received the Cosmopolitan Club's ninth annual First Citizen Award. He began his practice in Suffolk in 1930 and is the first physician to receive this award. Dr. Joyner has served as city medical examiner for twenty-one years and has been chief of staff of Louise Obici Memorial Hospital and president of the Nansemond County Medical Society. He has been active in many civic affairs.

Dr. Frank R. Crawford,

Farmville, has retired from the active

practice of medicine, after fifty-three years as a surgeon and missionary. Shortly after his graduation from Johns Hopkins University in 1911, he served the Southern Presbyterian Church as a medical missionary in China. Returning to the United States in 1933, he located in Farmville where he practiced surgery and in 1950 turned to general practice. Dr. Crawford is an elder in the Presbyterian Church and served as moderator of the Presbytery. He is a business executive, having been for some time president of the Freezeland Orchard Company near Front Royal. Dr. Crawford has also been active in civic affairs, having served as president of the Lions Club and with the Prince Edward County Community Chest. Looking back over his "Journey" which began in 1884, Dr. Crawford finds it has been "rewarding."

Alexandria Medical Society.

Dr. Thomas F. McGough has been installed as president of this society with Dr. Robert H. Anderson, president-elect; Dr. M. H. Kendrick, vice-president; Dr. Lawrence H. Shuman, secretary; and Dr. James H. Carpenter, treasurer.

Arlington Medical Society.

Dr. Sydney A. Tyroler is president of the Arlington County Medical Society and Dr. John J. Nolan president-elect; Dr. Gerald J. Fisher, vice-president; Dr. Robert E. Byrne, secretary; Dr. Robert H. Gruver, treasurer; and Dr. Joseph O. Romness, member at large.

Richmond Academy of General Practice.

Dr. Jose Coll has been installed as president of the Academy, with Drs. William M. Robinson, president-elect; Langdon Moss, vice-president; Edward M. Eppes, III, secretary; and Marvin Weger, treasurer. Dr. Frederick H. Savage is the retiring president.

The Medical and Chirurgical Faculty of the State of Maryland

Will hold its annual meeting at The Alcazar, Baltimore, April 21-23. Among the speakers will be Dr. Howard A. Patterson, President-elect of the American College of Surgeons, New York City; Dr. Franklin T. Brayer, Georgetown University; Dr. David C. Sabiston, Jr., Duke University; Dr. E. Perry McCullaugh, Cleveland Clinic; Dr. George S. Mirick, Health Research Council, New York; Dr. Carl Muschenheim, Cornell University; Dr. Lee Ramsay Straub, Cornell University; Dr. Theodore R. Fetter, Jefferson Medical College; Dr. Richard W. TeLinde, Johns Hopkins University; Dr. Thomas B. Conner, University of Maryland; Dr. R. Patterson Russell, Johns Hopkins University; Dr. Thomas W. Mattingly, George Washington University; and Dr. John H. Talbott, Editor of the *Journal of the American Medical Association*.

All physicians are invited to attend this meeting. A copy of the detailed program may be secured from Dr. Richard T. Shackelford, Chairman, 1211 Cathedral Street, Baltimore.

Annual Clinical Conference.

The Louise Obici Memorial Hospital Annual Clinical Conference will be held at the Hospital in Suffolk on April 7th. The subject for the Conference will be Present Day Management of Gastrointestinal Disease. Participants will be Dr. Felix Wroblewski, New York; Dr. Charles Caravati, Richmond; Dr. Eugene Pendergrass, Philadelphia; Dr. Irving Brick, Washington; and Dr. Charles McPeak, New York.

The Medical Staff has established an annual award for achievements in medicine and the recipient of the award for this year will be Dr. Charles Caravati.

The program is being sponsored jointly with the Postgraduate division of Merck Sharp and Dohme.

Richmond Eye, Ear, Nose and Throat Hospital.

Dr. M. P. Smith has been re-elected president of this hospital, with Drs. Rudolph C. Thomason and Walter J. Rein continuing as first and second vice presidents.

The Virginia Diabetes Association

Will meet in conjunction with the Virginia Academy of General Practice at The Homestead, Hot Springs, March 26th, under the presidency of Dr. L. Benjamin Shepard, Richmond. The program will be as follows: A Simplified Glucola Tolerance Test for Use in Diabetes Detection Drives and Office Practice by Drs. Brown W. Dennis, Guy Hollifield, and John A. Owen, Jr., University of Virginia; The Use of Dextrostix in the Detection of Diabetes by Dr. Robert K. Maddox, Norfolk; Severe Lactic Acidosis Successfully Treated with THAM and Hemodialysis by Drs. Frederic B. Westerfelt, Jr., John Hornbaker, John A. Owen, Jr., and Thomas Gorsuch, University of Virginia; Oral Therapy in Diabetic Management by Drs. James M. Moss and DeWitt E. DeLawter, Alexandria; and The Management of Unstable Diabetes by Dr. Alexander Marble, The Joslin Clinic, Boston, Massachusetts. There will be an informal round table discussion in the afternoon.

Fellows of American College of Radiology.

Dr. Alvin C. Wyman, Alexandria, and Dr. Carl P. Wisoff, Norfolk, were among the 42 radiologists to be made fellows of the College at its annual meeting in February.

Annual Northern Virginia Clinical Assembly.

The 16th Annual Assembly, sponsored by the Northern Virginia Medical Council, will be at Twin Bridges Marriott Motor Hotel, Arlington, March 17th. The scientific program is to be presented by the Walter Reed Medical Center. Dr. Ronald A. Apter, Arlington, is chairman.

The Assembly is acceptable for six hours of continuation study credit by the American Academy of General Practice.

Annual Post-Graduate Day.

The Roanoke Memorial Hospital will hold its annual post-graduate day on March 18th and 19th. At the session beginning at 10:30 A.M., Thromboembolic and Venous Disease will be discussed, with the following participants: Dr. J. Edwin Wood, III, University of Virginia; Dr. Edgar Hines, Mayo Clinic; and Dr. William Moretz, Medical College of Georgia. The afternoon session will be on Occlusive Arterial Disease with Dr. James F. Toole, Bowman-Gray School of Medicine and Drs. Hines and Moretz as participants. Dr. Irvine Page, Cleveland Clinic, will be the dinner speaker, his subject being Medical and Philosophical Problems of Arteriosclerosis and Aging.

On the morning of the 19th, the subject for discussion will be The Mosaic Pattern of Hypertension—1965, and participants will be Drs. Wood and Page.

The American Cancer Society

Will hold its 1965 Scientific Session at the Drake Hotel, Philadelphia, June 16th. There will be a symposium on Hormones and Chemotherapy for Cancer.

For further information, write Director of Professional Education, American Cancer Society, 219 East 42nd Street, New York City.

Treatment Center for Birth Defects.

A special treatment center for children with birth defects has been established at the University of Virginia Hospital. This is the first center of its kind in Virginia and is under the sponsorship of the National Foundation—March of Dimes. It will provide comprehensive treatment programs for children with multiple birth defects from throughout the State. Admission will be by referral from physicians or qualified agencies.

Dr. William Thurman, chairman of pediatrics at the University, will serve as med-

ical director, and Dr. Robert F. Selden, instructor in pediatrics, as program coordinator.

Associates Wanted.

Generalist or internist, Richmond suburb, to share very active clinic-type practice, some surgery optional. New fourteen room air-conditioned building with complete diagnostic facilities. Alternate working hours and week-ends; salary with extras first, then partnership. A second semi-retired physician is also needed for restricted practice. Send complete biography to #80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Needed.

General physician—family internist, by four-man group in growing rural practice in West Virginia. Modern clinic facilities, regularly visiting specialist consultant staff, scheduled training and vacation periods, foundation sponsorship, no investment required. Starting net income range \$14,000 to \$18,000, depending on qualifications. For further information, write #20, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Medical Equipment for Sale.

To settle the estate of the late Dr. Mitchell, medical equipment for sale includes: audiometer, Greer's refractor, ultra sonic, visual field, surgical instruments for eye, ear and throat operations, treatment chairs and other equipment. Interested persons should write Mrs. Dora W. Mitchell, executrix, 408 Jackson Avenue, Lexington, Virginia 24450. (*Adv.*)

Sublease,

Short-term with option to renew, new medical suite, west end location, all utilities included, ample parking, very minimal rental fee for large amount of floor space. Immediate occupancy, Richmond, Virginia. Write #40, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Current Currents

KING-ANDERSON: The American Medical Association—represented by its President, Dr. Donovan F. Ward, and its executive Vice President, Dr. F. J. L. Blasingame—has presented its views on H. R. 1 before the House Ways and Means Committee. The Association reaffirmed its opposition to the bill as a “dangerous venture by the Federal government in the field of health care.”

Dr. Ward pointed out that the proposed program would be unpredictably expensive, would impose an unfair burden on the nation’s wage earners and their employers, would establish Federal regulation and control which would not be compatible with the practice of high quality medicine, and would offer inadequate benefits to the aged.

The AMA witnesses then turned their attention to H. R. 3727, introduced by Congressmen Herlong and Curtis and popularly referred to as “Eldercare”. It was pointed out that this bill was designed to provide the elderly who need financial assistance with a wide range of hospital and medical benefits which would far exceed the limited program proposed by King-Anderson.

Under the Eldercare proposal, voluntary health insurance agencies would provide health insurance policies for the elderly with a cost to the individual borne partially or completely by Federal-State matching funds. The determining factor would be level of income. Eligibility would be established by a statement of income filed annually—eliminating welfare-type investigations.

AMA also emphasized the fact that the Eldercare plan would expand and enlarge upon the existing Kerr-Mills law—thereby preserving state control over administration and requiring no new payroll taxes on wage earners.

During the questioning of AMA witnesses, the Chief Actuary of the Social Security Administration was asked to comment on a news story that the Medicare fund would be bankrupt by 1976. He advised the Committee that the bill must further increase the tax another $\frac{1}{4}$ of 1% to avoid the full depletion of the fund by that year.

In concluding the AMA testimony, Dr. Ward requested the Committee to bear in mind those points raised by the Association. He urged the Committee to “give long and hard and unhurried consideration to the proposals before you, mindful that actions you are asked to take will create a design for the future which cannot be easily changed or reversed.”

HEART, CANCER, STROKE: The Senate Subcommittee on Health, in considering S. 596, is seeking the answers to two important questions. They are (1) how much will a big program like this cost; and (2) by which bureau of the U. S. Public Health Service shall it be administered?

ANOTHER COMMITTEE ON AGING? Reports from Washington state that Representative Claude Pepper (D., Fla.) has introduced a resolution establishing a Select Committee on Aging. This Committee would correspond, on the House side, to a Senate Special Committee on Aging set up several years ago. Its work would be of a non-legislative nature—consisting mainly of studies and hearings on health maintenance, housing, economic problems, etc. The Committee would not have authority to process bills.

FRINGE BENEFITS: The cost of government employee benefits today amount to 23% of the total payroll. This does not include salaries, but rather such items as retirement, annual and sick leave, health and life insurance, etc. The present annual Federal government salaries, overtime, etc., is more than \$15 billion. Fringe benefits amount to an additional \$3.5 billion annually. Keep in mind this does not include proposed pay raises.

POPULATION: The populations of the United States and Canada continued to grow substantially in 1964—bringing the total for the two countries to almost 213,000,000 at the close of the year. In the United States, the increase amounted to about 2,640,000, raising the total to 193,450,000. This rise of 1.4% for the year was below the average annual increase of 1.6% experienced in the ten years since January, 1955. Population gains in the United States have been slowed somewhat in recent years by the downward trend in births. Decreasing for three successive years, the births registered in 1964 totaled 4,045,000—the smallest number for any year since 1953.

MEDIATION: The Chairman of the Mediation Committee of the Multnomah County Medical Society in Oregon has stated that complaints fall into at least seven general categories. They are: (1) patient is confused and dissatisfied because of a breakdown in communication with his physician; (2) patient fails to appreciate or understand a fee and seeks an explanation from the Committee; (3) patient is upset and so advises the medical assistant. The assistant in turn attempts to protect her employer by not relaying the information; (4) insurance firms seek an opinion on the validity of charges, especially on contracts calling for 80% of "reasonable" fees; (5) patient complains in hope the physician will reduce the bill to avoid an unpleasant situation; (6) patient with a serious financial problem is reluctant to discuss the matter with his physician; and (7) the professional deadbeat who demands top quality service without any intention of paying for it.

These seven categories have little to do with competent medical care—but much to do with the irritated patient. Most of them can be satisfied with frank discussion and perhaps more personal attention. As the Chairman of the Multnomah committee put it, "keep your patient relationships on the sunny side, and make sure your fees are in line with the true value of your services."

Obituaries

Dr. Ennion Skelton Williams,

Richmond, was one of eighty-four persons who lost their lives in the crash of the Eastern Air Lines plane on February 8th, just out of New York City. He was senior vice-president of The Life Insurance Company of Virginia and president-treasurer of the Virginia-North Carolina 65 Health Insurance Association and was returning from a trip in connection with his work. Dr. Williams was a son of the late Dr. Ennion G. Williams, first Health Commissioner of Virginia, fifty-eight years of age and a graduate of the Medical College of Virginia in 1930. After two years of practice, he joined the Life Insurance Company of Virginia as assistant medical director. In 1959 he served as president of the Association of Life Insurance Medical Directors of America. In 1952, Dr. Williams served as chairman of a state-wide committee on tuberculosis conditions in Virginia, the committee being appointed by the Virginia Health Department and the Virginia Tuberculosis Association. He was a former president of the Children's Home Society of Virginia and the Richmond Tuberculosis Association. He served in the Navy during World War II.

Dr. Williams was an active member of The Medical Society of Virginia, having joined in 1933. He had been a member of the Editorial Board of the Virginia Medical Monthly for many years, serving as Associate Editor from January 1949 through October 1951. He had served on numerous other committees, among them being one on the study of venereal diseases. The findings of this committee were used to develop a venereal disease control program in Virginia.

Dr. Williams is survived by his wife, two daughters and a son.

Dr. Collins Denny Nofsinger,

Roanoke, died February 9th, at the age

of sixty-eight. He was a graduate of the Medical College of Virginia in 1922. Dr. Nofsinger was chief of internal medicine at Lewis Gale Hospital and was president of the hospital's board. He had been a member of The Medical Society of Virginia for thirty-seven years.

His wife, two daughters, and a son, Dr. Nofsinger, Jr., survive him.

Dr. Luther Clifton Brawner,

Richmond, was killed on February 3rd in the crash of his private plane near Charleston, South Carolina. He was forty-nine years of age and received his medical degree from the University of Oklahoma in 1939. He served his internship at the Medical College of Virginia and had been on the faculty since 1943. Dr. Brawner was a pioneer in corneal transplants and was a director of the Old Dominion Eye Bank and Research. Last year, the Northside Lions Club conferred honorary membership on him for the "time and talent he has devoted to sight conservation work."

In the spring of 1963, Dr. Brawner was one of seven American physicians who served for a month in a hospital near Algiers, under a program organized by Medico. He was a member of the Flying Physicians Association and was a qualified instrument pilot. Dr. Brawner had been a member of The Medical Society of Virginia for twenty-one years.

His wife, three daughters and a son survive him.

Dr. John Guido Graziani,

Farmville, died February 9th, following a heart attack, having been in ill health for several years. He was fifty-six years of age and a graduate of New York University College of Medicine in 1934. Dr. Graziani had practiced in Farmville for nearly twenty years. He was a member of The Medical Society of Virginia, having joined in 1946.

His wife and two daughters survive him.

Dr. Lewis Winston Holladay,

Richmond, died February 6th, at the age of fifty-nine. He was a graduate of the Medical College of Virginia in 1929. Dr. Holladay had served on the staff of McGuire Veterans Administration Hospital for nineteen years. He was a member of The Medical Society of Virginia.

His wife and a daughter survive him.

Dr. Massie.

There is no structure, however strongly built, that is not affected intrinsically by the loss of one of the firmest supports, especially if that support be a component part of the overall structure. "Bob" Massie was President of this Academy, and a very real part of medicine in this area until the morning of November 6, 1964, while in Florida on a fishing trip at the Rod and Gun Club of Everglades City, in the company of his close friend, Dr. R. D. Butterworth. Their guide was waiting and their boats being prepared for a few hours more of fishing before returning to Richmond. No doubt his heart filled with joy at the anticipation of what the day would bring forth when, alas, and to the sorrow of this community, a Greater Boatman beckoned, guiding him to "that realm from whose bourne no traveler returns," his death being caused by a massive coronary thrombosis. Thus, today surgery in Virginia, and more particularly in Richmond, has suffered an irreparable loss in the deeply regrettable death of Dr. John Robert Massie, scarcely past the zenith of life's noonday meridian and at the acme of his professional career at the age of fifty-five years.

Dr. Massie was born at his family home, Vallambrosa near Perkinsville in Goochland County on March 14, 1909. He attended Randolph-Macon College graduating in the class of 1929 where he was a member of the Sigma Phi Epsilon Academic Fraternity. Following his graduation, he taught for one year in Goochland County. He entered the Medical College of Virginia the following year and was graduated in 1934, being the President of his class in his junior and senior years. He was a member of A.O.A. and Phi Chi Medical Fraternities. He interned at the Medical College of Virginia Hospital in 1934 and 1935. He practiced medicine at Raven, Virginia, in 1935 and 1936. He was Health Officer in Wise, Lee and Dickenson Counties in 1936 to 1938. He returned to the Medical College of Virginia as a member of the surgical housestaff and was resident in surgery at that institution from 1938-1942. In May of 1942 he was made a Captain with the 45th General Hospital Unit which served in the North African and Italian theaters, and was discharged in August of

1945 with the rank of Major. He married the former Miss Charlotte Taylor on September 15, 1945. On October 1, 1945, he became a member of the surgical staff at St. Lukes Hospital where he remained until his death. He was Assistant Clinical Professor of Surgery at MCV and a consulting surgeon at McGuire Veterans Hospital. He also worked at the Richmond Memorial Hospital, Retreat for the Sick Hospital, and the Medical College of Virginia. In his earlier years he did considerable work at the Crippled Children's Hospital and at Sheltering Arms Hospital. "Bob" Massie was a brilliant surgeon, deft in the use of his hands, with a well-organized mind and with the ability to make decisions quickly and clearly.

All who knew him were well aware of his genial attitude, of his diplomatic thinking and acting, he having learned the meaning of the word, diplomacy, early in life, perhaps at his father's knee, for his father remained in public office continuously for forty-six years although political factions came and fell in his home county during that time. Thus, diplomacy was well ingrained in this man as a youth. He was an intense individual; and no man was more widely loved by his patients. Indeed, his very presence seemed to lend hope and comfort to those hopelessly ill. Truly, this man gave of his all to his patients. He loved them and he in turn was beloved by them. His high standing in his profession, and the recognition of it led to his election to the Presidency of the Alumni Association of the Medical College of Virginia and as President of this Academy. His inborn character, his gentleness, his geniality and his full realization of the word diplomacy won him a most enviable place in this community. An editorial in a Richmond newspaper said, and we quote, "Dr. Massie was indeed an exemplar of the qualities of which St. Paul wrote in his moving tribute to 'Luke, the beloved physician.'"

A list of his memberships in professional societies attests all that most of us feel. He was a member of the Southern Surgical Association and was its Vice-President at the time of his death. He was a member of the Eastern Surgical Society, the Southern Surgeons Club, the Richmond Surgical and Gynecological Society of which he was a past-President, the Virginia Surgical Society and the Southeastern Surgical Congress, the Southern Medical Association, The Medical Society of Virginia, the American Medical Association, the American College of Surgeons, the American College of Chest Physicians, the Pan Pacific Surgical Association, and the American Cancer Society. Among the nonprofessional memberships, he was a member of Ducks Unlimited, the Izaak Walton League, the Deep Run Hunt Club, the Virginia Anglers Club, the Wright's Island Game Association and the Virginia Arabian Horse Association. He was

a member of the Pilgrims, a local golf club; of the Society of Virginia Creepers; the Richmond Hundred; the Commonwealth Club; the Country Club of Virginia; the Society of the Cincinnati in the State of Virginia; and a life member of the Association for the Preservation of Virginia Antiquities.

He was never happier than when acting as host to his friends and professional colleagues and he eagerly sought opportunities to exercise every graceful act of hospitality suggested by his generous impulses—the complete personification of the ancient tradition of the South. Many of the younger men in this city have profited by conversations with him pertaining to patients as have his colleagues with whom he worked. We have never known a man who disliked discord as much as he did or one who loved harmony more. His excursions into the realm of recreation were sporadic but he played as hard as he worked. He was a good golfer. His favorite pastime, however, was fishing. He loved duck hunting, quail shooting and nothing better than to pursue the wary turkey; but his love for each of these was for its own sake in that it involved principles of fair play and a “square deal.”

The mundane shrine of John Robert Massie's worship were those of his Nation, his State, his Hearthstone, his Calling and his Friends. His concept of these materialities transformed them by the alchemy of the Soul into principles by which he lived. While he lived by them all with religious impartiality, his hobby was the fertilization of friendship. He was a veritable nurseryman of men's hearts, transfusing them with the essence of his own genial personality.

“Whom the Lord loveth He chasteneth” and death met him in the early morn. No doubt his chin was up and his eyes front, seeing clearly, at peace with the world. Thus, Death ever meets the legion of the Valiant, and always at the salute, as it swings past him into the glory of the Great West.

He is survived by his wife, two daughters and a brother.

THEREFORE, BE IT RESOLVED that the Richmond Academy of Medicine and medicine in this area has lost one of its most beloved and able practitioners of the healing art, that this Academy record its sorrow at his untimely passing, and that a copy of these comments be kept on file with this Academy and that a copy be sent to his bereaved family.

WEBSTER P. BARNES, *Chairman*

RICHARD A. MICHAUX, M.D.

JOHN BELL WILLIAMS, D.D.S.

Dr. Peirce.

On Sunday, September 6, 1964, the Northern Neck Medical Association lost one of its most eminent and beloved members, when Dr. Chichester Tapscott Peirce passed to the great beyond. He was in the

87th year of his age, and the last but one of the charter members of this Association.

Dr. Peirce was born at “Oakley,” in Lancaster County, on November 22, 1877. His early education began locally, and as a young man he attended Aberdeen Academy in King and Queen County, from which he graduated in 1896. From here he went to the old University College of Medicine in Richmond, now the Medical College of Virginia, and received his M.D. there in 1899. After one year of practice in Accomack County he returned to Lancaster, and continued in active practice here until his retirement in 1963.

Dr. Peirce was a physician and gentleman of the old school. To have known him well was an honor and a privilege, as he embodied all that was good and inspiring in this our profession. Possessed of superior skill and a charming personality, he worked tirelessly through the years to fill the needs of his patients. In 1949, at the end of fifty years of practice, a great throng gathered on the Court House green in Lancaster to show him how successful had been his efforts, and how much they appreciated him as a man and physician.

Aside from his profession he was an active churchman, a life long member of St. Mary's White Chapel Episcopal Church, where he served 31 years as vestryman. In his community he served on the School Board for several terms, the county Medical Advisory Board during World War I, and was a director of the Chesapeake Banking Company. In addition he was a member of the American Medical Association, The Medical Society of Virginia, the Northern Neck Medical Association, the Northern Neck of Virginia Historical Society, the American Legion, and the Indian Creek Yacht and Country Club.

During World War I he took up the duties of the citizen soldier, as did so many of his family, and was a captain in the Medical Corps. His father, a confederate veteran, served as Lieutenant in Company D, of the 9th Virginia Cavalry. His only son, Chichester Tapscott Peirce, Jr., gave his life for his country in 1945, on a European battlefield. His grandson, Chichester Barham Peirce, now serves with the United States Marines.

Dr. Peirce is survived by his wife, a daughter, two grandchildren, and two great grandchildren.

He was laid to rest in the ancient churchyard of St. Mary's White Chapel, in the section reserved for the members of his family that had gone on before. As the clear sweet notes of “Taps” floated out over the hushed assemblage of his family and his many friends, this soldier's farewell seemed a most fitting tribute, to the man who was loved so well by so many.

(Submitted for the Northern Neck Medical Association)

JAMES MOTLEY BOOKER, M.D.

Dr. Mitchell.

WHEREAS, Dr. Howard Lysle Mitchell, who for more than thirty eight years practiced medicine in Lexington, died suddenly on October 22, 1964 and

WHEREAS, he held membership in the American Medical Association, the American Academy of Ophthalmology and Otolaryngology; he was a fellow of the Academy International of Medicine, a diplomate of the Pan American Medical Association, a past President of the Staff of the Stonewall Jackson Hospital, a member and past President of the Rockbridge County Medical Society and a member of The Medical Society of Virginia, and

WHEREAS, during his years of dedicated practice, in the Lexington area, he endeared himself to his patients and to his fellow members of the medical society and hospital staff, and

WHEREAS, he gave unceasingly of his time, efforts and talents to the Lexington Children's Clinic and cooperated with the Lions Clubs of this area in rendering medical attention, whenever requested by the Lions Clubs, and

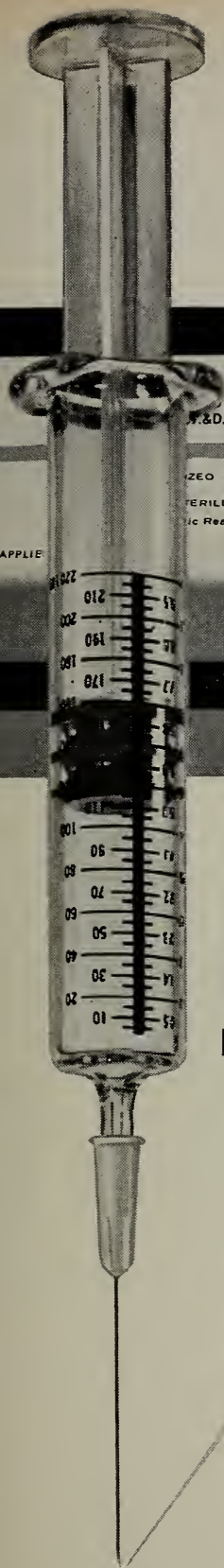
WHEREAS, his life and profession were dedicated to service to his fellow man, and

WHEREAS, his passing is a distinct loss to all of the organizations to which he belonged, but particularly to the Rockbridge County Medical Society and the Staff of the Stonewall Jackson Hospital, a loss which will be difficult, if not impossible to replace, and

WHEREAS, it is the desire of the said Rockbridge County Medical Society to express its great sorrow at the passing of Dr. Mitchell and to extend to Mrs. Mitchell and the members of his family its deepest sympathy.

NOW THEREFORE BE IT RESOLVED, that the Rockbridge County Medical Society has sustained a great loss in the death of Dr. Mitchell and extends to Mrs. Mitchell and the members of his family its heartfelt sympathy because of his passing, and BE IT FURTHER RESOLVED, that a copy of this Resolution be spread upon the records of this organization and a copy forwarded to Mrs. Mitchell, and a copy to the Virginia Medical Monthly.

ROCKBRIDGE COUNTY MEDICAL SOCIETY
H. R. COLEMAN, M.D., *President*
JOHN J. YAEGER, M.D., *Secretary*



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(Founded by Landon B. Edwards, M. D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

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4205 Dover Road

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Annual Subscription—\$2.00

Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL

Please, Mr. Shriver—*Edgar J. Fisher, Jr.*..... 157

ORIGINAL ARTICLES

Tribute to a Man—*C. Marshall Lee, Jr., M.D.*..... 159

Gastrointestinal Hemorrhage 1946-1956—
Benjamin B. Weisiger, M.D...... 161

Bone Scanning in the Management of Cancer Patients—
Carl P. Wisoff, M.D...... 166

Pulmonary Emphysema—*Edward S. Ray, M.D.*..... 170

Aortic Aneurysms—Emergency and Elective Surgical Resec-
tion—*R. N. deNiord, M.D.*..... 174

PUBLIC HEALTH

Health Department Services for the Premature Infant..... 181

MENTAL HEALTH

Comprehensive Planning Toward Combating Mental Re-
tardation in Virginia—*Grace Maynard Smith*..... 183

DIAGNOSTIC LABORATORY MEDICINE

The Serological Tests for Syphilis (Lues)—
J. G. dos Santos, M.D...... 185

CORRESPONDENCE 188

MISCELLANEOUS

Life Saving Medical Identification..... 188

THE MEDICAL SOCIETY OF VIRGINIA

Minutes of Council..... 190

EDITORIAL

Steward R. Fuller, Ambassador of Goodwill—
Harry J. Warthen, M.D...... 195

The Conservation of Medical Manpower—
James M. Moss, M.D...... 196

NEWS 197

OBITUARIES 199

The MONTHLY is not responsible for the opinions and statements of its contributors

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Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 44

Guest Editorial

Please, Mr. Shriver!

THE CALL issued recently by R. Sargent Shriver, Director of the Peace Corps, for 500 physicians to serve with the Corps overseas seems unwise to us for many compelling reasons.

In the first place, it is difficult to understand how Mr. Shriver could be unaware of the critical need for physicians in this country, not only in rural America but in many of our urban and suburban areas as well. These needs and shortages are well known to countless persons who go to bed each night praying that they will not be taken sick. They know if they are that there is no physician in their community to answer their call for help. The magnitude of this problem is well known to those who administer physicians' placement services and who are constantly visiting doctor-short communities.

An increasing number of our senior citizens find themselves living in or retiring to rural areas. Many of these people cannot travel distances to the physician's office. They need a doctor who can come to them when this is necessary. For these people the lack of physicians presents a crisis of great consequence.

In the second place, the demand for physicians is continually increasing as our population explodes and as more and more people carry insurance to cover their medical problems. The Virginia Council on Health and Medical Care, which administers the clearinghouse Physician Referral Service in the Commonwealth, has never known a time when more doctor-short communities and overworked, established physicians have been listed with it as needing help and relief.

Not only is the demand for family physicians at an all-time high, but the requests for specialists has likewise never been as great as it is today. How, under these conditions, which exist not only in Virginia but nationally, can Mr. Shriver even entertain the thought of siphoning off 500 physicians for overseas work?

Third, the idea seems even more ridiculous when one considers the fact that Mr. Shriver is not only Director of the Peace Corps but also Director of the Anti-Poverty Program. Does he not realize that many of the

depressed areas of our country are poor because they lack industry and employment opportunities? Most of these same areas lack physicians. Without physicians they cannot hope to attract industry to provide jobs in order to cure the economic ills of depressed areas and provide a healthy climate for industrial growth.

In one program which Mr. Shriver directs, he proposes to recruit 500 physicians to send out of the United States and in another program which he directs, he proposes to help depressed areas. Yet by reducing our physician population he takes away a means or resource by which the poorer parts of our country could help themselves to recover. It just does not make sense. Mr. Shriver is inconsistent in the wearing of two different hats.

In the fourth place, Mr. Shriver's plan will make it more difficult for State Medical Societies and groups like the Virginia Council on Health and Medical Care, which are working so hard to try to populate rural America with needed physicians. Competition for the services of a physician is keen enough without injecting this romantic, unrealistic challenge.

Mr. Shriver might find some relief for his problem by checking on the utilization of physicians currently in government service. On occasion doctors come to the Virginia Council for help in finding temporary work to occupy a significant amount of time which they seem to have available and which is not being used in their assignments.

In registering our objection to Mr. Shriver's plan, we wish to make it clear that we do not object to physicians who are called by God to serve abroad as medical missionaries. These dedicated doctors are prepared for this important work, learn the language of the country to which they are sent, and they do not go for a "lark". Theirs is serious business. We are *not* unaware of critical medical care needs which exist throughout the world.

The favorable response which has come to our letter of protest of November 30, 1964, to Mr. Shriver has been heartening. Editorial support from newspapers has been amazing and state-wide. Letters from Virginia Members of Congress and phone calls and letters from physicians, doctor-short communities, businessmen and friends have been overwhelming. People we meet on the street and in our travels give us further encouragement. So far support for our position has been unanimous.

We hope Mr. Shriver will reconsider his proposal, change his mind, and wear both his hats with due respect for his responsibilities to the American people.

EDGAR J. FISHER, JR., *Director*
Virginia Council on Health and Medical Care

Tribute to a Man

C. MARSHALL LEE, Jr., M.D.
Boston, Massachusetts

IN APRIL 1942, Task Force 16 was returning from the "Doolittle Raid" against Tokyo. The Japanese 5th Fleet, powerful enough to have demolished our small force, had been successfully evaded, and the dangerous mission had been all but completed. In the Northern Pacific the weather was rough. One of our fighter pilots, flying protective cover for the ships, lost his bearings; but finally within radio range, he was being "talked in". I stood in our navigator's room listening tensely, with hundreds of others in the task force, as course and bearings were given to him in steady sequence. We could hear his cheerful, confident voice acknowledging the instructions, and from time to time he spoke of his dwindling fuel supply; and he was told to gain as much altitude as he could, for the long glide in. At length, and as casually as if he were being denied an extra cup of coffee, he said, "It's all gone. That's the last drop." But he had reached visual contact and started the glide. Once again, the gay voice said, "I'm on my way home; I'm coming in."

A destroyer was detached from the swiftly moving task force, and a boat was lowered, with beautiful precision in estimating his point of impact when he "ditched". Successful free-glide ditching in a rough sea requires impact on the far side of an oncoming wave. To strike the water at the base of an approaching wave, on its near side, is to have the heavy plane instantly engulfed. It is a matter of luck or, if you will, it is in the hands of God.

And this young man, with a rescuing whaleboat standing by, struck the wrong side of the wave—and was gone. The anguished, heartrending groan from thousands of watching men was almost audible as one voice, from all the ships.

On another occasion—I think it was during an air-sea battle off San Christobal, in the Solomon Islands—the fighters were being launched, with the incredibly precise interval timing that always characterized this hazardous operation. With the carrier heading at high speed into the wind, the first plane hurtled along the flight deck runway. Just before lift-off, the ship went into a fortuitous, twisting pitch and roll, and the plane, faltering briefly, plunged into the sea. Without perceptible hesitation, the next plane roared down the runway. Incredibly, unbelievably—impossibly even—the same twisting pitch occurred, at the same intolerable instant, and the second plane vanished under a cloud of spray, in an oncoming wave.

The third plane? Well, the third plane got off safely without "breaking stride" for an instant, and so did all those that followed it. But two young men had died, as had their brother pilot in the cold waters of the Northern Pacific, through the inscrutable workings of capricious fate. I did not personally know any of these young men, since I served on an escorting destroyer and not on the carrier itself. But I saw them go down, and the wrenching sense of despair and disbelief, in that awful instant, lies

heavy on a man's heart as long as he lives. It differs in an almost tangible way from the loss of one's friends and comrades, known and unknown, in the deadly, shared exposure of combat.

It was with this same terrible agonizing, numbing, incredulous horror that the news about Ennion Williams came to me. I was never privileged to have a brother of my own, but knowing and admiring this gallant and gracious gentleman, I would have been proud indeed to have been his brother. And the searing sense of personal loss was as real as though this had actually been true.

I do not think this feeling is unique. Any and all of his host of friends must, I am sure, share it. To have known Ennion Williams well was to feel that he was indeed a brother to all men, and that all men were his brothers. It isn't necessary to recite his attainments, his accomplishments, or his stature as a citizen and a churchman, and in his chosen field of professional endeavor. These are all a matter of public record, familiar to those who knew him personally, and to those, less fortunate, who did not.

This man, with so much to be proud and arrogant about, was never—could never

have been—proud or arrogant. His courage, his good humor, his composure in difficult situations, his serene and friendly tolerance of shortcomings in others, his kindly ability to inspire people to try harder and behave better, and his seemingly inexhaustible patience and energy, to take up the slack by his own efforts, when others faltered—these were the qualities of this man that set him apart from the common run of men. These were the elements in his character that might have moved Samuel Johnson to write of him, as he did of Edmund Burke: "You could not stand five minutes with that man, beneath a shed while it rained, but you must be convinced you had been standing with the greatest man you had ever yet seen."

I have spoken of his courage and his composure. At that ultimate moment I can picture him, if there was time, turning to Ray Long with a reassuring smile, perhaps touching his arm, and saying, "Well Ray, we're going home." I like to think that his voice was as calm and gay as was that of the young pilot from Task Force 16, whose name I do not know.

*200 Berkeley Street
Boston, Massachusetts*

Gastrointestinal Hemorrhage 1946-1956

A Follow-up

BENJAMIN B. WEISIGER, M.D.
Richmond, Virginia

Massive gastrointestinal bleeding, an alarming emergency, does not always respond favorably to either medical or surgical treatment. Studies such as this help in determining the future management of gastrointestinal hemorrhage.

IN 1958 we reviewed all of our cases of severe gastrointestinal hemorrhage admitted to McGuire Veterans Administration Hospital for the years 1946 through 1956.¹ One hundred forty-eight patients were classified as severe in that they had an acute hemorrhage and their hemoglobin fell below 10 gms. %. In this way, we eliminated all the mild and somewhat questionable bleeding problems. We have recently sought to follow up these 148 patients to see if their subsequent course could be of help to us in determining the future management of gastrointestinal hemorrhages. We were particularly interested in determining what percentage of duodenal and gastric ulcer patients bled again. We wanted to see whether the medically treated patients bled more or less frequently than the surgically treated. We hoped to find out if bleeding ulcer patients usually presented with hemorrhage rather than pain on each of their admissions. We felt it was of interest to follow cases discharged with the diagnosis: "Gastrointes-

From the Gastroenterology Section of the Medical Service; McGuire Veterans Administration Hospital, Richmond.

tinal hemorrhage, due to unknown cause," to discover what, if any, diagnosis eventually made itself evident in these cases. Although these two categories constituted the largest groups of patients, all groups were followed insofar as possible.

Plan of Study

One hundred forty-eight male patients were involved in this study. A follow-up ranged from one to 17 years. All of the data sheets used in the original study were reviewed. Hospital charts were pulled and reviewed for subsequent admissions, operations, and further diagnoses. All patients were classified according to their discharge diagnosis made on their initial admission for bleeding. Twenty-eight of the 148 neither returned to the hospital at any time nor answered the questionnaire sent to all the study patients. The distribution of diagnoses in the group lost to follow-up was similar to the rest except for a higher percentage in the "unknown cause" category.

Duodenal Ulcer

Fifty-five of the duodenal ulcer cases were traced. (Figure 1) This included the four who died on their first hospital admission.

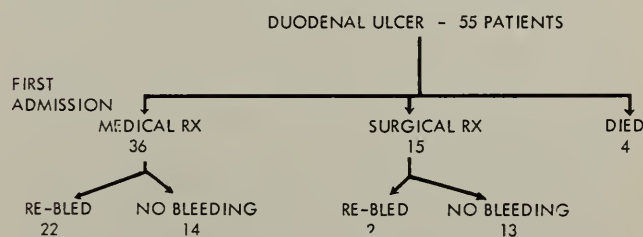


Fig. 1. Course of 55 duodenal ulcer patients on first admission and subsequent follow-up.

Three of these had medical treatment and died of meningo-encephalitis, heart failure,

and myocardial infarction respectively. Although bleeding played a role in their demise, it was not the primary cause. The fourth patient died after emergency surgery for bleeding, but was handicapped by carcinoma of the lung.

The remaining 51 patients were followed one to 15 years. During their first admission to McGuire, 36 patients were treated medically and 15 surgically. Of the 36 treated medically on their first admission, 21 bled again and 15 did not. Of the 15 who had surgery (usually subtotal gastrectomy), only two bled again. One of those bled twice, but neither had further surgery. Of the 21 medically treated patients who bled again, 14 later had surgery for this. Of those 14, only one bled again afterward; and he had six hemorrhages and three operations before he was controlled. One bled again and died after an emergency operation for hemorrhage. One bled again and was treated medically, but perforated a gastric ulcer and died.

Thirty-seven of the 55 duodenal ulcer patients (67%) gave an ulcer history of typical pain prior to their severe bleeding episode. Only five of the 37, however, had bled previous to their admission here. Three had perforated previously.

When episodes of rebleeding occurred, either in medically or surgically treated patients, they usually did so within the first five years after their initial massive bleeding episode. This was the case in all but three patients.

Thirteen of the 51 cases eventually died subsequent to their first admission. Although 10 deaths were apparently unrelated to ulcer disease, three were. One was the case who died of the perforated gastric ulcer, one died after ulcer surgery, and one died of carcinoma of the stomach.

Of all 31 of those who eventually had surgery, 10 had symptoms other than bleeding later. Half of these had ulcer recurrences manifested by pain. The other five had either diarrhea, vomiting, intestinal obstruction, or dumping syndrome. Of the 11 who neither

bled again, nor had surgery, four either had ulcer symptoms or a proven reactivation of ulcer.

Gastric Ulcer

Twelve patients originally bled massively from a gastric ulcer. Three were lost to follow-up. Of the remaining nine patients, four died on their first admission. One medically and three surgically treated patients died, two of the latter on the table. Including these three, a total of five patients were treated surgically at the time of their first admission. The two survivors did not rebleed. Two of the three medically treated cases who survived bled again, had surgery, and rebled subsequently. The third case did not bleed again, but eventually required surgery for ulcer symptoms. The large number of deaths points out the seriousness of gastric ulcer hemorrhage.

Marginal Ulcer

Four patients bled severely from marginal ulcer at the time of their admission. Three of these were followed. All of these bled again within four years. All but one bled more than once. One eventually required a total gastrectomy to prevent his recurrent ulcerations. A Zollinger-Ellison-type ulcer-producing tumor of the pancreas was searched for, but not found. One of the patients died as a result of a bleeding episode.

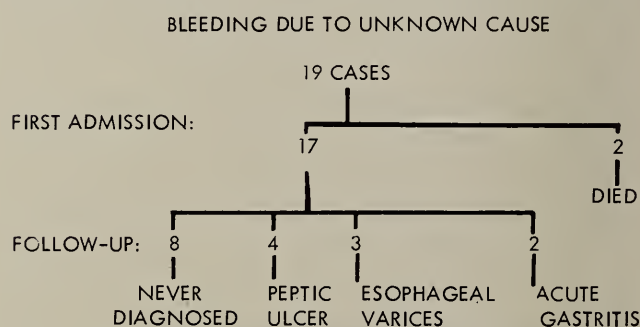


Fig. 2. Course of 19 cases of gastrointestinal bleeding due to unknown cause on first admission and subsequent follow-up.

Unknown Cause

Nineteen of the 27 patients diagnosed as "gastrointestinal bleeding due to unknown cause," on their first admission, were subject

to follow-up. (Figure 2) The length of follow-up varied between one and 13 years. Two of these died on their first admission and no cause was found. Of the remaining 17, eight (or more than half) were never diagnosed. Four were later found to have peptic ulcer, three to have cirrhosis with esophageal varices, and two to have acute gastritis. Although none of these subsequent diagnoses were definitely established as the reason for the initial bleeding episode, an inference can be drawn from them since they caused significant hemorrhage on a subsequent occasion. Seven of these patients died subsequently including the three cirrhotics with esophageal varices. One patient died of a myocardial infarction, another of a pulmonary emboli; and two others died without any cause of death or possible bleeding site being found.

Esophageal Varices

Sixteen people bled from esophageal varices, all secondary to cirrhosis, on their first admission. Fifteen of these are dead and one still living 12 years after his first episode. Of the 15, 10 died on their first admission and five died at two, three, four, five, and eight years respectively. One lived eight years after a transthoracic ligation of his varices. Another fatal case was found at autopsy to have a large bleeding gastric ulcer as well as varices. It is good to remember that cirrhotic patients are more subject to ulcer, gastritis, and hiatus hernia than the general population and varices should not be blindly accepted as the cause of bleeding.

Gastritis

A total of six patients were diagnosed on their first admission as acute gastritis, for the most part due to alcohol. One was lost to follow-up and two died when first seen. One died of unknown cause and one of uremia. Three cases were followed and only one did not rebleed. One of the others bled subsequently from a gastric ulcer and later rebled from a marginal ulcer following sur-

gery. The other case bled on numerous occasions, received massive transfusions; and underwent two exploratory laparotomies. The last laparotomy was nine years after his first bleeding episode. At that time a mass was found in the head of the pancreas. This was empirically treated with radiation with no further bleeding. Diagnosis in some of these cases was made by gastroscopy, but in others by inference only and may well have been incorrect.

Malignancy

Six patients bled massively from malignant tumors at the time of their first admission. Five were dead within one year. Three had carcinoma of the stomach, two bled from pancreatic carcinoma with erosion into the duodenum, and one bled from a rectal carcinoma. Follow-up over a prolonged period is of little significance in this group since patients bleeding from malignant diseases seldom survive long. The exception was the patient with rectal carcinoma who died six years later of unrelated causes.

Miscellaneous

There were three patients in the miscellaneous group. One bled repeatedly from the bowel during an admission for tuberculosis extending over a two year period. He was found at post mortem examination to have bled from bowel lesions of polyarteritis nodosa. Another bled from aberrant pancreatic tissue in the stomach and was cured by resection of the lesion. Another bled from uremia and died as a result of his renal disease on the same admission.

Discussion

As would be expected from these data, the great majority of bleeding was due to peptic ulcer in the form of duodenal, gastric, and marginal ulcerations. Together these accounted for at least 58 per cent of all severe bleeding cases admitted. This is in keeping with most authors' reviews of adult patients in general hospitals. It was also, not unex-

pectedly, the commonest reason found in the "unknown cause" group.

Bockus and others have pointed out that bleeding occurs most often in an ulcer that has already been symptomatic for some time.² Probably only about 15 per cent present with bleeding as their first symptom. Once a pattern of bleeding has been established, however, it often continues. Our data showing that only five had bled previously, but that 23 bled again, agrees with this and with the work of Donaldson and others.³ The latter reviewed 142 bleeding ulcer cases in the Boston area and found that only one-fourth of their cases had bled previously, but over one-third bled again.

Of interest was the lack of recurrence of bleeding after surgery as compared with medical therapy. Fifty-eight per cent of the medically treated recurred, but only 13 per cent of the surgically treated did so. The incidence of other symptoms was approximately equal in these two groups.

It can be anticipated that the majority of hemorrhages recurring will do so within five years. This was our experience and it coincided with that of Krause of Uppsala, Sweden.⁴ He recently reviewed ulcer patients treated there between the years 1925 and 1934, and found that 70 per cent of recurrences were in the first five years after the initial hemorrhage.

The large number of deaths from ulcer hemorrhage, particularly from gastric ulcer, points out the seriousness of the problem and the need for rapid adequate blood replacement and close cooperation between physicians and surgeons. One recent study showed a 13.6% mortality for gastric ulcer as opposed to a 3.8% for duodenal ulcer.⁵

Gastrointestinal bleeding due to unknown cause remains a problem as does its management. More than half of our cases never had a cause demonstrated, even on follow-up examinations. Those diagnosed were in the distribution one would expect in a large hospital with all male patients, that is, peptic ulcer, esophageal varices, and gastritis. An indication of the difficulty in this prob-

lem are the 22 cases followed closely by Crohn for several years with only two being diagnosed.⁶ Retzlaff and others who explored 100 Mayo Clinic patients for bleeding of obscure origin, could find a cause for bleeding in less than half.⁷ At present neither medical diagnostic procedures or surgical exploration yield very helpful results in this group and the so-called "empirical gastrectomy" continues to be a debatable therapeutic procedure.

Gastritis is a much questioned diagnosis as a cause of acute hemorrhage, but certainly does occur in hospitals that have a large number of alcoholic patients. Early gastroscopy within 12 to 24 hours is the best method of detecting these as the gastric mucosa heals with great rapidity and may look normal after this time.

The high initial death rate and limited survival in cirrhotic patients with bleeding esophageal varices is well known and has been commented upon frequently. A death rate of 50 per cent or over on the first admission has been the rule. Newer methods of control such as the Sengstaken-Blakemore tube, intravenous pituitrin, and a better understanding of the management of hepatic coma have probably helped reduce this percentage slightly since the time of our initial study.

Summary

1. One hundred twenty out of 148 patients with severe gastrointestinal bleeding were followed from one to 17 years.
2. The great majority were caused by various forms of peptic ulcer and recurrences were more frequent in the medically treated than in the surgically treated.
3. Less than half of the cases reported as "hemorrhage due to unknown cause" were ever found to have a potential bleeding source.
4. As expected, most bleeding esophageal varices patients were dead at the time of follow-up.

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Explode Myths About Plants

Erroneous folk beliefs about plants need to be corrected to prevent accidental poisonings, according to an article in the August Archives of Environmental Health, published by the American Medical Association.

The article by Shirley Baughman O'Leary, B.A., West Hyattsville, Md., warned:

—There are no safe tests for poisonous plants.

—What birds and animals may safely eat is not necessarily harmless to man. Birds, animals, and man differ in their susceptibility to various poisons.

—Heating and cooking do not always destroy the poison—it depends on the poison, and some of the most deadly are unaffected.

—There is probably no locality that has no poisonous plants.

Everyone should be aware of the danger from plants not known to be edible and take the standard precautions for poisonous substances: keep infants and small children away from them; teach older children not to experiment with them; seek medical aid if the substance is ingested.

Seeds, bulbs and other roots saved and

stored for replanting should be kept away from children, as they are often, even if not in themselves toxic, a hazard from dusting with, or soaking in, pesticides and fungicides.

The average individual has little opportunity to learn about the everpresent danger of poisoning from ornamental house and yard plants, some garden plants, and numerous wild varieties. Most garden books, articles, catalogues, and baby-care manuals omit mention of poisonous plants except for poison ivy, the oak-sumac group and mushrooms. The urban background of many families also may have caused abandonment of handed-down warnings against eating unknown, and known-to-be dangerous, berries, leaves, and roots.

There is accumulating evidence that the elephant ear group of plants, which include Dumb Cane and Philodendron, are responsible for many painful experiences by young children, whose skin and throats are burned by the high content of calcium oxalate, causing dangerous swelling of the tissues. It is believed that if much of these plants were swallowed, death might follow unless prompt treatment were obtained.

Bone Scanning in the Management of Cancer Patients

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Bone scanning using Strontium 85 is shown to be a safe and useful procedure in the management of cancer patients.

THE PURPOSE OF THIS REPORT is to illustrate some useful applications of bone scanning in the management of cancer patients.

The extension of scanning technique for the diagnosis of bone lesions was made possible with the development of Strontium 85. Strontium 85 has a half-life of 64 days. It decays to stable Rubidium 85 with the emission of a single gamma photon with the energy 0.513 M.E.V. These characteristics of reasonably short half-life and moderate low energy makes Strontium a convenient and safe isotope to use for scanning.

Following the protocol outlined by Fleming and associates¹ we administered intravenously 20 microcuries of Strontium 85 to those under 20, and 50 microcuries to older patients. After injection, our scans were made at varying intervals with a commercial photoscanner equipped with a 3 x 2 inch thallium activated sodium iodide crystal, pulse height analyzer and 19 hole focusing collimator. A 24 to 48 hour interval after injection yielded the most satisfactory scans.

Case I—A middle aged patient had a resection of adenocarcinoma of the colon. One year later he developed pain in the pubic region. X-ray examination of the pelvis made at the Norfolk General Hospital

was suggestive of some destruction of the left pubic symphysis. (Fig. 1) Bone scan

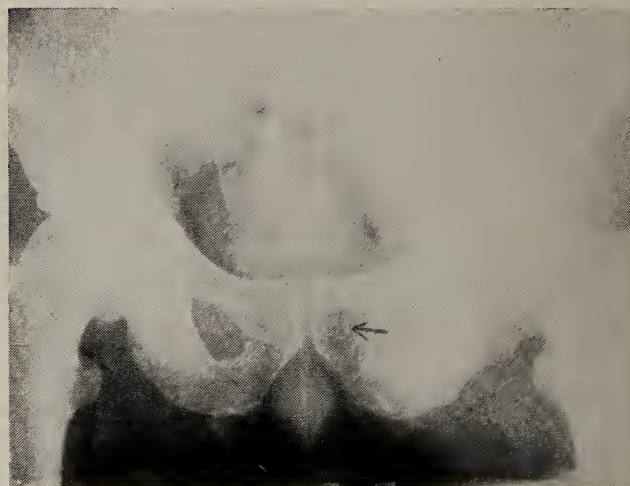


Fig. 1. Case I. X-ray examination of pelvis showing probable metastatic carcinoma.

was made showing increased isotope uptake in this region confirming the impression of metastatic carcinoma. (Fig. 2)



Fig. 2. Case I. Bone scan shows increased uptake over suspected lesion.

Comment—In this case, the scan confirmed changes on the x-ray that were only suggestive.

Case II—An elderly male had pain in his back. X-ray examination showed a destruc-

tive lesion in the first lumbar vertebra and the right eleventh rib. No primary neoplasm could be found. Biopsy of the rib revealed anaplastic tumor.

X-ray therapy to the lumbar region for pain was advised, but prior to therapy a bone scan was made and showed a metastatic lesion of T9, in addition to the lower lumbar involvement. (Fig. 3) The T9 lesion could



Fig. 3. Case II. Bone scan of vertebrae shows unexpected uptake over T9 and uptake over L1, L2, and L3.

not be seen on the routine x-ray examination but destruction was demonstrated by special views of this bone.

Comment—The bone scan revealed an entirely unsuspected area of involvement. Palliative therapy was much more effective with this knowledge.

Case III—An elderly male had carcinoma of the left maxillary antrum. X-ray examination of the facial bones suggested that there might be some bony involvement, but the extent of it could not be determined. A bone scan showed rather extensive bony infiltration into the surrounding bone structures of the antrum. (Fig. 4)

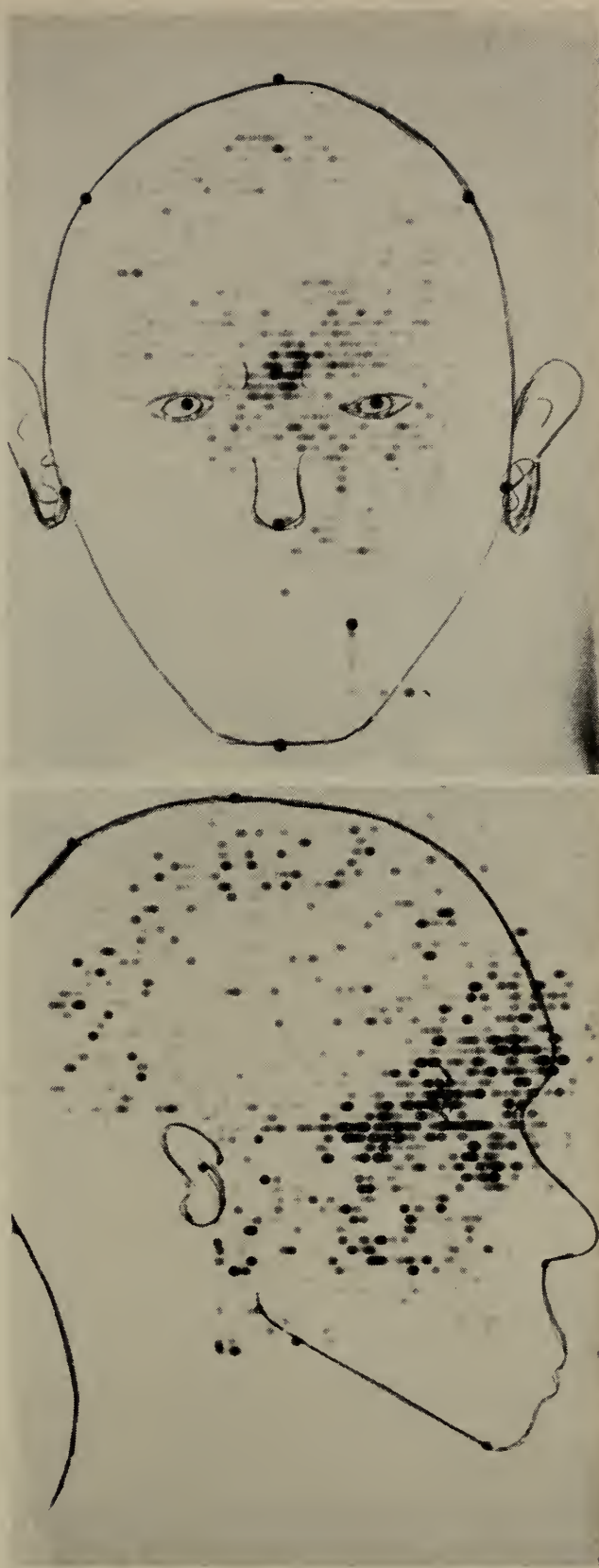


Fig. 4. Case III. Anteroposterior and lateral scans of patient with carcinoma of maxillary antrum showing peripheral extension in bone.

Comment—The pre-treatment scan helped outline the peripheral extension of the lesion for treatment planning.

Case IV—An elderly female had carcinoma of the urinary bladder with total cystectomy. Six months following surgery she developed severe pain in the left inguinal region which extended down to the knee. X-ray examination of the pelvis, hip and femur were negative. A bone scan of the pelvis revealed increased uptake over the left acetabular region indicating metastatic deposit in this region. (Fig. 5) Roentgen

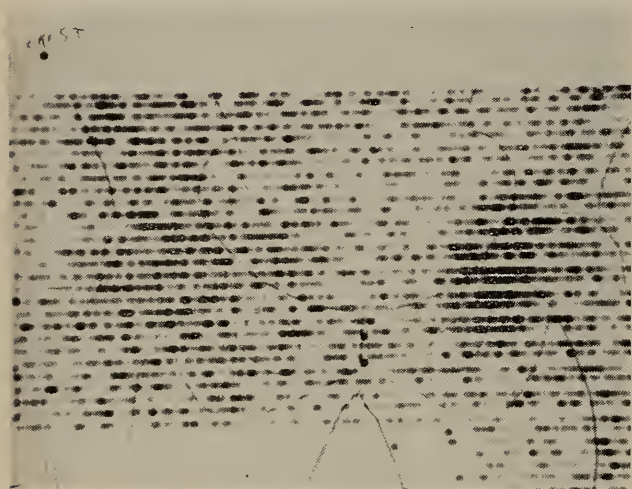


Fig. 5. Case IV. Bone scan of pelvis that had negative x-ray examination showing lesion in left acetabular region.

therapy was administered to this area with prompt relief of pain.

Comment—This lesion could not be found without the use of scan technique and it enabled effective treatment of her pain.

Discussion

A roentgenogram reflects the difference between the accretion and resorption rates of bones. At least 30% decrease in bone cell content is required for absence of bone to be detected, and only half of the cases with proven bone metastases found at autopsy are visualized on the roentgenogram.² The development, therefore, of supplementary or more sensitive tools to detect bone lesions would be quite useful. The Strontium deposition depends upon osteogenesis alone and shows promise of filling this role.

Strontium is similar to calcium in its metabolism, differing in only some quantitative aspects. Virtually all of the deposition

of Strontium in the body is in the bones. Movement in and out of the skeleton parallels that of calcium under the influence of parathyroid hormone and vitamin D. The greatest deposition in bone is in areas of active growth and recent mineralization. Excretion of Strontium takes place both in feces and in urine.

In 1958 Bauer and associates^{3,4} showed that following the injection of Strontium 85 there was a demonstrable increase of this isotope activity detectable over a number of different types of bone lesions. Included in their series were examples of fractures, bone tumors, osteomyelitis, Paget's disease and eosinophilic granuloma.

The bone scan is particularly useful in evaluating patients with localized bone pain who have had carcinoma treated in the past. In these instances the x-ray examination may be equivocal or negative and the diagnosis either confirmed or made by the bone scan as shown in Cases 1 and 4.

We find it useful in planning x-ray therapy to determine the extent of involvement by a lesion, and whether there are other adjacent areas involved to include in the treatments, as illustrated in Cases 2 and 3.

Charkes and Sklaroff^{5,6,7} have pointed out that normally there is increased uptake over the vertebral column, sacroiliac articulations, acetabulum and glenoid fossa. Increased activity over these areas should not be mistaken for lesions. The scan generally shows a larger area than the involvement shown by x-ray. They performed biopsies on 12 patients revealing tumor in bone in the areas found to be positive on the scan, but absent on the x-ray examination, and in each instance, metastatic cancer was found. In their three cases of reticulum cell sarcoma of bone, scans were negative, suggesting that histology may play a role in scan diagnosis.

The radiation dose to bone from a 70 microcurie dose was calculated by Fleming and associates to be 3.4 rads in bone, which is the critical organ. This is comparable to

doses received by organs during other diagnostic x-ray procedures, such as G.I. series. The only contra-indication to Strontium scanning is pregnancy.

Summary and Conclusion

Four cases illustrating the value of bone scanning in the management of cancer patients are presented.

Bone scanning may demonstrate a lesion not visible on the x-ray examination or may call our attention to areas on the roentgenogram that are abnormal, but not readily visible on routine views. It has been useful in radiation treatment to demonstrate the site and extent of metastatic lesions. The procedure is relatively safe in regard to radiation burden and the tests can be performed leisurely over a number of days. Its usefulness has been proven to us and I expect that it will gain more widespread acceptance in practice.

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FIRE

Fire killed approximately 11,900 people in this country during 1964, according to the National Fire Protection Association. This was an increase of 100 over the previous year's toll, but below the record mark of 12,100 fire deaths set in 1954.

Property destroyed by fire in 1964 totalled \$1,675,000,000, according to preliminary estimates of the international non-profit fire safety organization. The total was a drop of approximately \$113,100,000 from the previous year's record high, reversing a three-year trend of constantly rising dollar losses from fire.

About 6,500 of the fire deaths occurred in United States homes, an increase of 50

over the 1963 figure. Almost 30 per cent of all fire victims—3,500—were children.

The worst United States fire tragedy of 1964 was the inflight fire causing the crash of an airliner near Newport, Tennessee, on July 9, taking 39 lives.

In other major disasters, 20 elderly people living in a Fountaintown, Indiana, nursing home not protected by automatic sprinklers, and remote from any fire department, were burned to death when fire struck on December 18. On May 23, 17 persons attending an entertainment in the social hall of a San Francisco church were killed when a fire starting on the stage spread rapidly through the hall.

Pulmonary Emphysema

A Disease of Cigaret Smokers

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The incidence of pulmonary emphysema is closely correlated with the daily consumption of cigarettes as well as with the duration of the smoking habit.

ONE of the striking clinical features of emphysema is that it is predominantly a disease of white males. Murphy, Katz, Massaro, and Luchsinger¹ reported a 4:1 ratio of white males to colored males among emphysematous patients in two Washington hospitals. They suggested that the higher incidence of mucoviscidosis among the white race might be a factor in the difference of emphysema between the two races. A predominance of emphysema among males in general has been reported from the United States Vital Statistics of 1962 which revealed that 86% were among males and only 14% among females. Mitchell and Filley² in 1964 reported an incidence of 87% among males and 13% among females. Of 308 cases of deaths from emphysema reported in 1962 to the Bureau of Vital Statistics (Virginia)³, 75% were in white males, 7% in colored males, 16% in white females and 2% in colored females.

To determine the race and sex incidence of this disease at the Medical College of Virginia the records were reviewed of all patients during 1961 and 1962. This study included all patients admitted to the hos-

pital and those seen in the out-patient clinics. The Medical College of Virginia Hospitals admit approximately 35,000 patients yearly with a ratio of 51% white and 49% colored. The out-patient clinics admit 90,000 patients annually with a ratio of 28% white and 72% colored.

All cases of emphysema included in this study were symptomatic with varying degrees of dyspnea as their chief complaint. Most of the cases had considerable disability and about half were totally disabled because of their shortness of breath. On physical examination there was generalized suppression of breath sounds and in some cases there were expiratory musical rales but the latter finding was not prominent.

Each case had PA and lateral chest X-rays and if there was evidence of some other disease (tuberculosis, sarcoidosis, carcinoma, idiopathic fibrosis, etc.) the case was excluded from the study. Cases with bronchial asthma or patients who had a chronic cough as a prominent symptom of many years duration were excluded from this study. These other pulmonary conditions may be causal factors in the development of some cases of emphysema and might complicate any attempt to study the disease if they were included. Therefore, only cases of emphysema that had no associated pulmonary disease were included in this study. After removing from this study all patients with emphysema who had other pulmonary diseases, there were 360 cases of "idiopathic" pulmonary emphysema and this group is shown in Table 1 with a breakdown of their smoking habits. As will be noted of the 360 cases there were 315 cases of emphysema

From the Department of Medicine, Medical College of Virginia.

who were cigaret smokers (88% of the "idiopathic" group).

Pulmonary function studies were performed in all cases included in this study.

TABLE 1.
"IDIOPATHIC" EMPHYSEMA

Cigaret smokers	315
Pipe 4, Cigars 1	5
Smoking habits not recorded	42
Non smokers	8
Total	360

In many cases rather complete ventilatory and arterial gas studies were recorded. However, in the majority of cases, expirograms only were available. Because the expirogram was the only pulmonary function study that was common to all cases, it was used as the primary diagnostic functional study. Only cases with a one second forced expiratory volume of 70% or less of the Total Vital Capacity were included.

Table 2 shows the race and sex incidence of these 315 cases who were cigaret smokers. The striking predominance of white males is shown along with the relative infrequency of this disease among colored females.

TABLE 2.
PULMONARY EMPHYSEMA—SMOKERS

White male	251	(80%)
Colored male	25	(8%)
White female	36	(11%)
Colored female	3	(1%)
Total	315	100%

The distribution by age of these 315 patients with emphysema who were cigaret smokers is shown in Table 3. The age of these 315 cases of emphysema is about what one would expect. It is very probable that emphysema to some extent is present in all adults and the degenerative changes that accompany age most likely play a part in its development. The fact that such changes are greater in males than in females may explain some of the sex differences in the incidence of this disease.

Because of the apparent causal relationship of cigaret smoking to the development

of emphysema a review of the smoking habits was then made in greater detail. This data is not as accurate as one would like because the smoking habits of an individual

TABLE 3.
AGE OF PATIENTS

Less than 20 years	0
20-30 years	0
30-40 years	4
40-50 years	58
50-60 years	110
60+ years	143
Total	315

will vary from year to year and one has some difficulty in recalling accurately his smoking habits over a period of many years. Also, patients with emphysema have often reduced their smoking recently because of the obvious adverse effects that smoking has on their respiratory symptoms. Table 4 reveals

TABLE 4.
YEARS OF CIGARET SMOKING

Period of Cigaret Smoking:	No. of Patients:
Less than 10 years	0
10 yrs.-20 yrs.	2
20 yrs.-30 yrs.	36
30 yrs.-40 yrs.	110
40+ yrs.	167
Total	315

the period of time that these 315 cases of emphysema had smoked. There is an indication that 20 years or longer of cigaret smoking is necessary for the development of emphysema and in the great majority of cases this period is over 30 years.

Table 5 shows the average daily consumption of cigarets. As was expected, the great majority of these patients smoke a package of cigarets or slightly more daily. It is probably significant that there were few cases who smoked less than 20 cigarets daily. As with carcinoma of the lung there appears to be a relationship between the consumption of cigarets and the development of pulmonary emphysema. As indicated in Table 2 there were only 4 pipe smokers and 1 cigar smoker who did not also smoke cigarets.

There were a number of patients who were cigaret smokers who also occasionally smoked a pipe and cigars; these have been included among those classified as cigaret smokers.

TABLE 5.
DAILY CIGARET CONSUMPTION

Daily Consumption of Cigarets:	No. of Patients:
Less than 10 cigarettes -----	0
10-20 cigarettes -----	6
20-30 cigarettes -----	181
30+ cigarettes -----	128
Total -----	315

Because emphysema is predominantly a disease of white males a study was undertaken to determine if there was a difference in smoking habits of white males. A survey was made of the smoking habits of patients on the general hospital wards and in the clinics at the Medical College of Virginia. Excluded from this survey were patients

each sex and race. The findings are as noted in Table 6. The white males smoked the most and colored females smoked the least. The difference in the smoking habits was very striking and probably explains the difference in frequency of emphysema between the two races and between the two sexes. Because emphysema develops primarily among those who smoke 20 or more cigarettes daily, a division is made in Table 6 between those smoking more than 20 cigarettes daily and those smoking less. The percentage of white males smoking more than 20 cigarettes daily is almost twice that of colored males and several times greater than females of both sexes. These figures suggest that the difference in the incidence of emphysema among the two races and the sexes can be explained on the difference in their smoking habits.

TABLE 6
SMOKING HABITS—HOSPITAL AND CLINIC POPULATION

DAILY CIGARET CONSUMPTION	WM	CM	WF	CF
None.....	17	15	73	93
0-10.....	2 26%	21 45%	13 71%	17 85%
10-20.....	20	31	19	18
20-30.....	81	61	34	18
30-40.....	10 71%	4 45%	4 29%	2 15%
40+.....	15	1	5	1
Pipe.....	1	8 (5%)	2	0
Cigar.....	4 3%	8 (5%)		0
Chew.....	0	1		1

who were known to have emphysema and those who attended the Chest Clinic. It is acknowledged that this is not an ideal method of obtaining information of the smoking habits of the general population but it was the most practical at the time. Our patients come from the eastern half of the State of Virginia and primarily from the Richmond area; one would like to take a large sampling of this population and possibly this will be done at a later date. Included in this survey were patients who were 40 years of age or older as usually a pattern of smoking has not developed before this age. A total of 600 individuals were interviewed, 150 of

A factor influencing cigaret smoking among the female sex is that women are much more likely to seek medical attention or become concerned about cough and expectoration than are men. Clinical experience reveals that men will accept a moderate amount of cough and expectoration for years without complaint and without seeking medical advice. This is especially true of men who are cigaret smokers as they assume, and rightly so, that such symptoms are related to their smoking. Women, on the other hand, try to avoid cough and expectoration and are more likely to smoke less to reduce these symptoms. This explains in

part the differences in the smoking habits between the two sexes.

A small sampling of colored and white females under 40 years of age indicated that cigaret smoking is much more common in this younger age group and consequently one may expect an increase in the frequency of emphysema among females during the next decade or so.

Summary

The records of patients with emphysema attending the Medical College of Virginia Hospital and out-patient clinics were reviewed. White males accounted for eighty percent of those with emphysema. A review of the smoking habits of the two races and sexes revealed that there was a fairly close correlation between the number of cigarets smoked and the frequency of pulmonary emphysema. As with carcinoma, there ap-

parently is a causal relationship between cigaret smoking and most cases of pulmonary emphysema. Emphysema occurs infrequently in those who smoke less than a package of cigarets daily and among those who have smoked less than 20 years. The low incidence of emphysema among females and colored males today can be explained by their low cigaret consumption.

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Aging in Women Decreasing.

It appears that nature, without artificial assistance, has contrived to bless womanhood with a longer period of "endocrinologic youth," according to an editorial in the January 11th *Journal of the American Medical Association*. The editorial referred to a recent report that, in the decade before 1961, the median age of menopause of women in Great Britain was 50.1 years.

This represents an increase of about four years in the age of menopause compared with that of a century ago, and this trend has occurred in most European countries since the last century.

"Analysis of early literature suggests that approximately 40 years was the mean age

of menopause in ancient times, and approximately 45 years between 1500 and 1800. These findings are particularly significant in view of the fact that today adolescence occurs at a much earlier age than in the last century. This combination of an earlier age of menarche . . . and a later age of menopause provides material for cheerful speculation. It is possible that these changes connote a decreased rate of 'physiological degeneration,' that is, a decreased rate of aging in women in recent decades."

There is no certain explanation for these changes, although better nutrition and improved environmental conditions may play important roles.

Aortic Aneurysms—Emergency and Elective Surgical Resection

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Early resection of abdominal aortic aneurysms as an elective procedure carries an acceptable mortality and is contrasted sharply with the forty to fifty percent mortality when resection must be done as an emergency procedure.

THE OCCURRENCE of abdominal aortic aneurysms increases as more citizens reach and surpass the proverbial four-score and ten years. Furthermore, with increasing awareness of the possibility of abdominal aortic aneurysms, their symptoms and their lethal potential, earlier diagnosis and more vigorous elective surgery has been performed during the past few years.

In many instances, an elective resection will avoid the emergency surgery which must be performed at a later date when rupture or dissection has occurred, and in which case mortality increases precipitously.

This paper deals with the experience in both emergency and elective abdominal aortic aneurysm resection and grafting over the five-year period beginning July 1958 to July 1963.

During this period a total of thirty-eight abdominal aneurysms were resected with twenty-seven elective and eleven emergency procedures being performed.

Selection of Cases

It is apparent from rather large series that symptoms alone can be misleading since a

Presented before the Virginia Surgical Society, Asheville, North Carolina, May 1964.

majority of patients with abdominal aortic aneurysms have no symptoms except from the expanding, pulsatile tumor mass which may cause bizarre deep visceral discomfort as it stretches the root of the mesentery.¹ Until dissection or rupture occurs many patients are not aware of their problem.

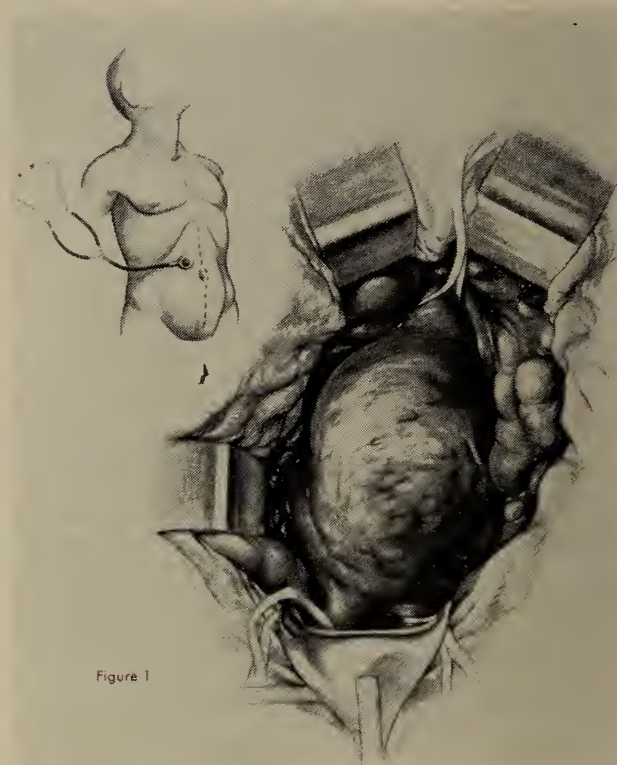


Fig. 1. Exposure and demonstration of abdominal aortic aneurysm.

Therefore, symptoms themselves offer a poor criteria for advising elective resection. The aneurysm size is also not of great significance. Hunter has reported that many postmortem examinations have revealed ruptured aneurysms of less than 5 cm. in diameter.³ The dissection or rupture usually occurs through an anterior tear secondary to degeneration of the intima and destruction of the elastic media. These areas of

degeneration develop in small as well as in large aneurysms, and the size, therefore, is not as important as was once considered.^{1,2} Aside from the size and symptoms, selection of patients for elective resection depends largely upon those criteria governing selection for any major abdominal procedure. The presence of a recent incurable malignancy, a metastasis from previous malignancy or generally debilitated state would

small aneurysm enlarge over a span of two to three months this is of great prognostic value and warrants consideration for early resection to avoid catastrophic rupture.³

"Outflow Tract" Evaluation Prior to Surgery

A patient with bilateral femoral or popliteal artery obstruction and significant ischemia of the lower extremities is an ex-

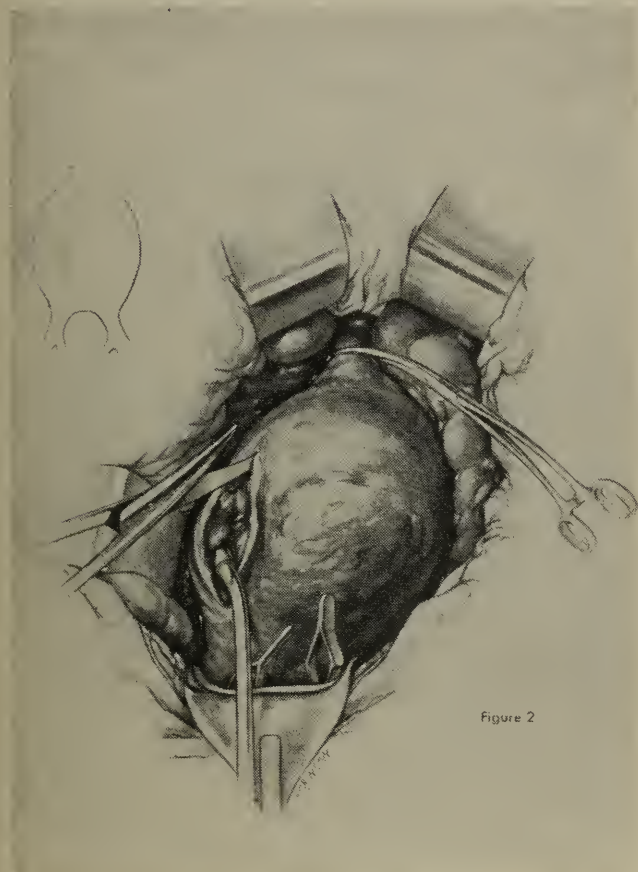


Figure 2

Fig. 2. Vascular clamps applied above the aneurysm and just below the renal arteries—iliac artery vascular clamps also visible. The anterior wall of the aneurysm being opened.

contraindicate surgery. Of great importance, also, is the preoperative evaluation of renal function since renal shutdown can occur from aortic crossclamping and preoperative awareness of any malfunction may be life saving.

A palpable aneurysm noticed by either the patient or the physician is usually of significant size (i.e. greater than 5 cm.) to warrant surgery. A history of aneurysm expansion is also of significance. Should a



Figure 3

Fig. 3. Thrombi and atheromatous material being evacuated from aneurysm.

tremely poor risk as far as abdominal aortic aneurysm resection and grafting are concerned. Complications following the insertion of a Dacron bifurcation graft are minimal when the outflow is adequate, thus avoiding the dangers of thrombosis within the graft.⁴ Patients with obstructive peripheral vascular disease should be evaluated prior to surgery to determine the presence of a segmental block that might be corrected at the time of aneurysm resection. Translumbar aortography to evaluate an abdominal aneurysm is contraindicated since dissection in the thin, diseased aortic wall may occur. The aneurysm itself can be well out-

lined by simple palpation and intravenous pyelograms may also help in localization. Frequently a flat and lateral x-ray of the abdomen will clearly identify the calcified margins of the aneurysm. Fortunately, 90% of abdominal aortic aneurysms begin at or below the renal artery—aortic junction.^{5,6,7}

Although translumbar aortography is

and thrombosis are likely to occur. Should femoral arteriography be necessary because of suspected peripheral arterial obstruction, and if this reveals segmental blockage with adequate distal runoff, then a concomitant lower arterioplasty, i.e., endarterectomy or bypass procedure should be done at the time of aortic resection to ensure satisfactory

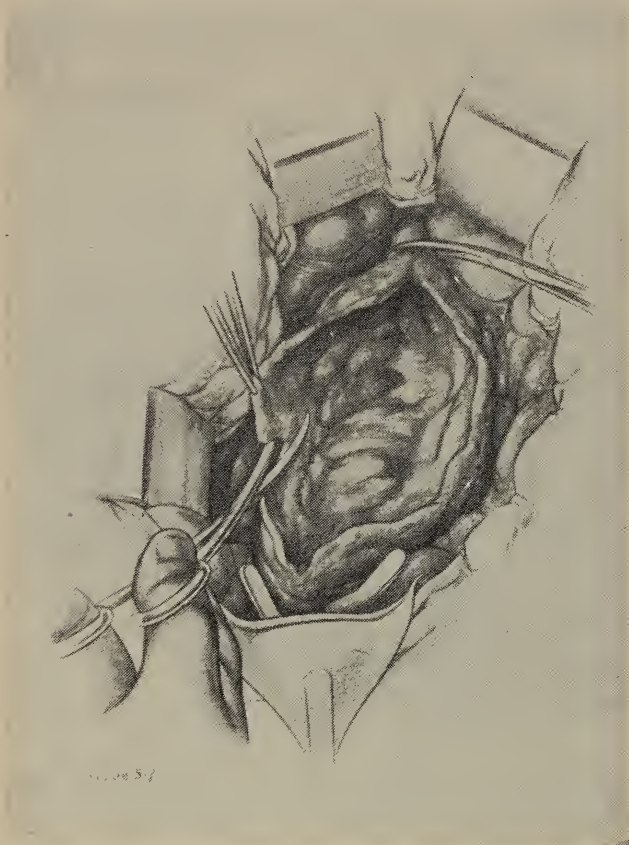


Fig. 5-1. Resection of anterior wall of aneurysm leaving postero-lateral wall intimately adherent to vena cava. At this point significant lumbar bleeding is controlled by fine suture ligature of the ostia from within the aorta.

contraindicated, femoral arteriography frequently is indicated to demonstrate the patency of the femoral and popliteal vessels. If obstruction exists high in a femoral vessel with inadequate runoff, and if this is a unilateral condition with a satisfactory contralateral outflow, then effective bifurcation grafting can be accomplished since at least one open tract will provide adequate flow through the graft. However, if both femoral or popliteal vessels are obstructed with poor runoff, the insertion of a bifurcation graft carries a lethal potential since graft stasis

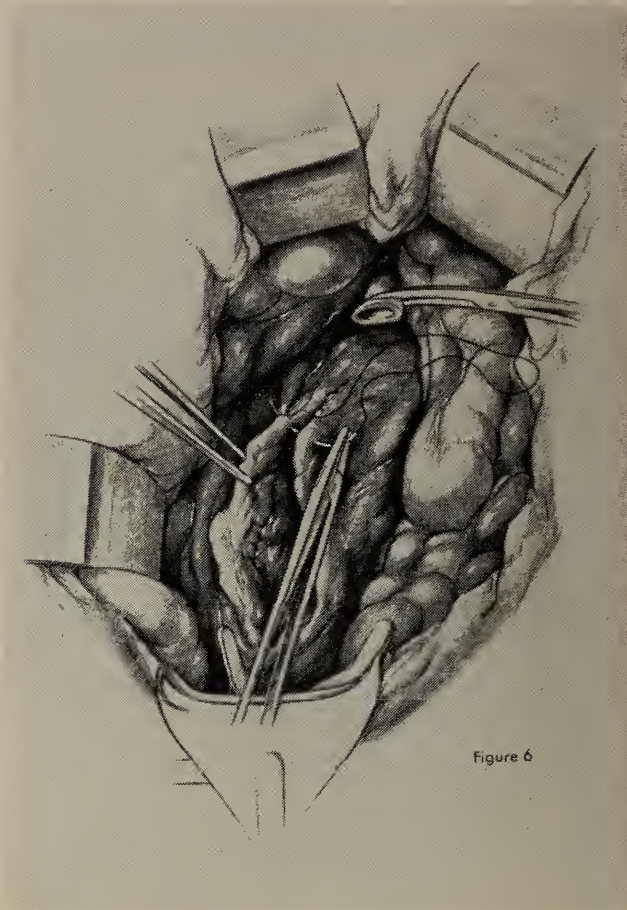


Fig. 6. Division of the upper portion of the aneurysm and closure of redundant wall.

flow through the graft. This was necessary in five patients.

Type of Anesthesia Employed

The anesthesia employed may be of some significance and is therefore mentioned briefly. In the majority of patients, that is 32, general endotracheal anesthesia alone was used. In six patients in this series hypothermia was used because of the patient's generally poor condition or co-existing poor renal function. Hypothermia seems to protect both hepatic and renal parenchyma

during stressful surgery and in at least two instances probably was responsible for patient survival.

Operative Technique

The operative method is probably well known by all here, but several points may be emphasized. The introduction of two large upper extremity intracaths to provide

side the abdomen and the root of the mesentery and posterior peritoneum opened.

The aneurysm is immediately identified and is palpable. The superior and inferior extent are palpated to ascertain the length of the aneurysm and the size of the graft. An appropriate graft is selected by the surgeon and sterilized.

Following this procedure the inferior

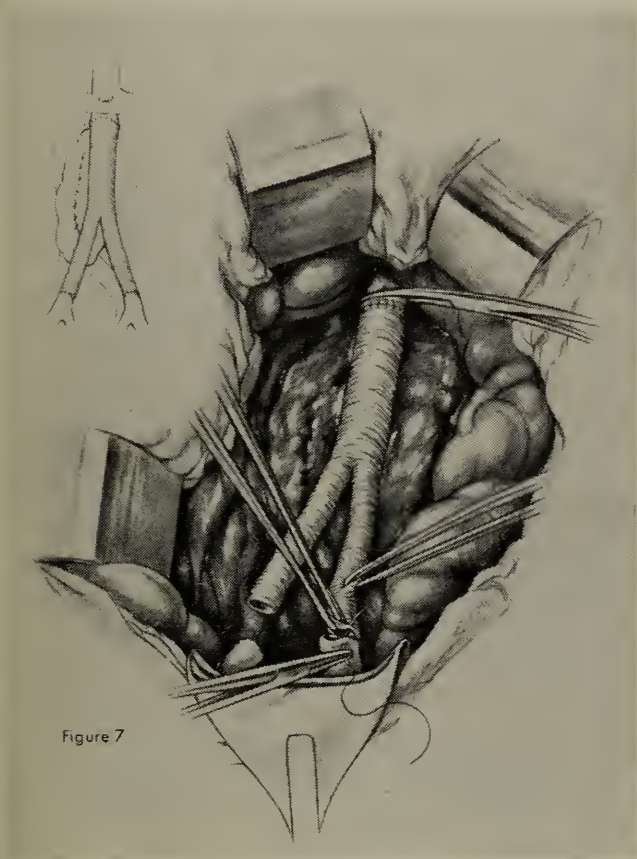


Fig. 7. Dacron bifurcation graft being sewn in place using atraumatic continuous arterial sutures.

adequate venous inflow for blood replacement is mandatory. Also the placing of a Foley bladder catheter should be routinely done prior to surgery.

The entire abdomen and lower chest as well as the thighs down to the level of the knee are prepared should an incision be required over the femoral region or lower thigh.

A midline abdominal incision is made from symphysis to pubis and a generalized abdominal exploration carried out. Following this, the small intestine is packed either in moist towels or an appropriate bag out-



Fig. 8. Demonstration of large abdominal aneurysm with calcified wall clearly demonstrated.

mesenteric artery is tied and divided close to its outlet from the lower aorta since mobilization of the aortic aneurysm cannot satisfactorily be done without division of this vessel. If the vessel is ligated close to the aorta itself, no problems are likely to occur relative to arterial insufficiency of the colon.

Gentle traction is then placed on the aneurysm towards the right so that the lumbar vessels can be individually identified, ligated and divided. As many of these vessels as possible are ligated prior to opening the aneurysm to avoid troublesome bleeding from the aortic bed.⁶ Some of these vessels cannot be ligated externally and must be

controlled from within by direct suturing of the ostia.

Attention is now directed to passing a small tape around the iliac vessels below the aneurysm with great care to avoid entering the iliac veins. Occasionally the aneurysm involves the iliac arteries and in this case the iliac vein may be intimately fused with the artery and can easily be torn unless dissection below the aneurysm is carefully performed. The greatest care is spent at this point in the procedure, i.e., carefully surrounding the aneurysm above and below.

After the aneurysm has been surrounded superiorly and inferiorly, a right angle vascular clamp of the DeBakey type is used to crossclamp the aorta just below the renal arteries and a small amount of Heparin solution is injected into the aorta prior to

atraumatic 4-0 silk suture reinforced with interrupted atraumatic vascular sutures.

The distal or iliac vascular clamps are then removed allowing retrograde filling of the graft. All anastomotic sites are checked carefully. The aortic clamp is removed slowly to avoid drop in blood pressure and reapplied if such a drop occurs.

Following removal of all vascular clamps, care must be taken to palpate the common femoral arteries below the graft to insure that runoff is adequate. It is important at the time of iliac-graft anastomoses not to perform an endarterectomy on the iliac or common femoral vessels but to include the intima in the suture line so that intimal flap obstruction will not occur.

Concomitant bilateral lumbar sympathectomy can be performed at the discretion

TABLE I

ELECTIVE RESECTION AND "DACRON" BIFURCATION
GRAFTING OVER FIVE-YEAR PERIOD

Number of cases	27
Average Age	65
Immediate mortality (within 48 hrs.)	3 (11%)
Still alive with functioning grafts	19
Late graft complications (thrombosis)	1
Expired from causes other than graft complications	4
(coronary thrombosis	2)
(no follow-up	2)

clamping of this vessel and just above the clamp once it has been applied.

Local heparinization usually helps to avoid thrombosis at the site of aortic clamping, but post-operative anticoagulation is not employed.

The anterior wall of the aneurysm is now resected without attempting to remove it from the vena cava. Often the aneurysm is intimately associated with the vena cava and attempts to dissect it from the cava itself extends the operative time significantly and increases the risk. Therefore, the posterior wall of the aneurysm is left *in situ* and the anterior wall resected.

The bifurcation graft is now sewn into position starting with the aorta just below the renal arteries and using a continuous

TABLE II

LATE RESULTS OF BIFURCATION GRAFTS FOR
ABDOMINAL AORTIC ANEURYSMS

Type grafting material—	
Dacron	34
Teflon	4
Complications—	
Postoperative thrombosis—(Dacron)	1
Due to poor peripheral runoff	
Infection of graft—(Teflon)	1

of the surgeon but is not necessary unless some degree of peripheral vascular disease exists which might be improved with this procedure. Reperitonealization is important to prevent small bowel or celiac arterial fistulization.⁹

The abdomen is then closed with the use of retention sutures deep to the fascia and interrupted fascial sutures of fine stainless steel or plastic material for greater strength. This type of closure will allow the patient more freedom to cough and deep breathe postoperatively without risk of a wound evisceration.

Surgical Technique in Acute Dissection Or Ruptured Abdominal Aortic Aneurysms

The ruptured or dissecting abdominal aortic aneurysm is a different surgical prob-

lem which does not allow the surgeon time to adequately evaluate or prepare the patient.

If massive intra-abdominal bleeding has occurred then a life-saving procedure employed in two patients in this group consisted of a small left thoracic incision, and cross-clamping of the lower descending thoracic aorta in the chest. This procedure affords immediate re-establishment of blood pressure. The abdomen is now prepped and laparotomy performed, and an aortic clamp appropriately placed below the renal arteries. As soon as cross-clamping of the abdominal aorta has been accomplished (usually requiring about twenty minutes following the abdominal incision), the thoracic aortic clamp can be removed allowing restoration of circulation to the celiac, superior mesenteric and renal vessels.

In both instances in which this procedure was employed no postoperative renal or

TABLE III		
ACUTE DISSECTING ABDOMINAL AORTIC ANEURYSMS		
Symptoms—Severe low back pain	64%	
Presenting location—		
lower aorta with tear anterior	8	
lower aorta with concomitant iliac artery aneurysm and extension of tear or dissection to iliofemoral region	3	
Type of anesthesia—		
Endotracheal, general	7	
Hypothermia	4	
Special surgical procedures employed	2	
Massive intra-abdominal bleeding controlled by small thoracotomy and clamping of descending thoracic aorta.		

superior mesenteric artery problems occurred. In both instances this procedure was life saving and is recommended in such grave emergencies.

The technique of bifurcation graft insertion in these patients is no different than in the elective procedure. The time factors are the same and great care must be taken to avoid damage to the iliac veins or the inferior vena cava in the excitement of the moment.

Postoperative Care

For both elective and emergency aneurysm resections, the most important considerations postoperatively are 1. renal out-

put, 2. pulmonary function, 3. continued bowel decompression until return of tone and 4. control of infection with antibiotics.

1. Renal flow should be maintained by adequate hydration and with the use of intravenous Mannitol or LMWD if necessary. These drugs provide continued diuresis by maintaining a "wet kidney", and their use is advised where the patient's renal outflow appears suspiciously diminished or where preoperative studies indicate chronic renal damage.¹²

The hour to hour flow of urine is measured, and diminished output is recognized at once. Postoperative renal failure usually occurs from extended cross-clamping of the abdominal aorta below the renal arteries. This problem can be obviated by decreasing the operating time so that aortic cross-clamping is limited to about one hour. The

TABLE IV		
EMERGENCY RESECTION AND "DACRON" GRAFTING FOR DISSECTING OR RUPTURED ABDOMINAL AORTIC ANEURYSMS OVER FIVE-YEAR PERIOD		
No. of cases	11	
Average age	63	
Immediate mortality (within 48 hours)	5 (45%)	
Still alive with functioning grafts	4	
Late graft complications	2	
(Infection and thrombosis—		
Teflon graft)	1)	
(Postoperative renal shutdown and anuria	1)	
Expired from causes other than graft failure	0	

use of potassium replacement in these patients is withheld until it becomes evident on the third or fourth postoperative day that no renal damage has occurred.

2. Pulmonary function with adequate ventilation and evacuation of bronchial secretions is important since patients with large abdominal incisions sometimes restrict their diaphragmatic and chest excursions with resultant atelectasis. Frequent deep-breathing exercises and occasional coughing are encouraged. Digitalization postoperatively for prophylactic purposes is not indicated unless the patient had had evidence of congestive heart failure or has a suspicious cardiac history.

3. Infection should be stringently guard-

ed against by the use of preoperative antibiotics—usually penicillin and streptomycin. The use of antibiotics is very important in this age group since with a large incision, a bladder catheter, the accumulation of clots and debris and the presence of a foreign body graft, an excellent growth medium is provided. Pre-and postoperative antibiotics are used until it becomes evident that no problem in this regard exists.

4. *Intestinal decompression*—A nasogastric airvent tube is left in position until bowel sounds are active. The use of a gastrostomy for bowel decompression is preferred by some in preference to a tube. Without continued bowel decompression a

TABLE V

AORTIC ANEURYSMS REQUIRING RESECTION AND GRAFTING WITH CONCOMITANT ENDARTERECTOMY OR "BYPASS" BELOW THE ANEURYSM	
No. patients requiring concomitant lower vascular endarterectomies or bypass-----	5
Type procedure performed—	
Femoral endarterectomy -----	3
Femoral to popliteal Dacron bypass-----	2
Late results of concomitant endarterectomies or bypass—	
Peripheral circulation still functioning-----	4
Thrombosis of femoral—popliteal bypass-----	1

prolonged ileus may result. Early ambulation is important as in other surgical procedures. Usually a patient having elective aneurysm resection is urged to sit upright and take a few steps within three to five days of his surgery. Retention sutures are left in place for about ten to fourteen days to provide wound stability.

Discussion and Summary

In summary, the concept of elective resection of aortic aneurysms has become fixed in present day surgical thinking. The high incidence of dissection or rupture of aneurysms greater than 5 cm. in size dictates the necessity for early surgical intervention. With improvements in surgical performance, better patient evaluation preoperatively and adequate postoperative care, the risks of elective resection are markedly reduced. The acceptable mortality rate of less

than fifteen percent in most elective resections is contrasted markedly with a mortality rate of forty to fifty percent when performing an emergency resection. The evaluation of the patient with an abdominal aneurysm is discussed, urging preoperative studies of peripheral arterial outflow where obstruction exists. The experience with 38 patients over a five-year period is described and the surgical technique and postoperative care outlined.

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State Health Commissioner of Virginia

Health Department Services for the Premature Infant

The State Health Department conducts a comprehensive program designed to decrease the incidence of premature births and, in the event of such a birth, to reduce the chance of death. The program consists of improving care during deliveries and providing adequate facilities for the premature infant and medical follow-up during the first two years of life. The State Health Department is at present strengthening its activities in this field, since premature births continue to be a health problem in Virginia. Of the 96,584 live births in 1963, 8,771 were premature births. Prematurity is the leading cause of neonatal death.

Preventing the Occurrence of Premature Births

Adequate prenatal care for all mothers by private physicians or in clinics is essential for a reduction in the rate of premature births. Such care includes instruction in personal hygiene and diet, and the detection and correction of abnormal conditions.

There are 39 Maternal Clinics, 95 Well-Baby Clinics and 76 Maternal and Child Health Clinics, which include maternity and pediatric care, operated by the local health departments. Currently, there is one Regional Consultation Clinic providing consultative service to the maternal and pediatric patient who is unable to purchase this service. In addition, under the Maternal and Child Health Hospitalization program medically indigent, pregnant patients with pathology and premature infants may be hospitalized at the State's expense.

The issuance of permits to and the super-

vision and instruction of midwives by the State Health Department are other areas where reduction of prematurity is actively pursued.

The State Health Department provides premature nursing consultative service to hospitals upon request. An evaluation of the full-term and premature nurseries, milk laboratories, physical facilities, equipment, procedures, techniques and nursing personnel is included. Many hospitals in Virginia have utilized this consultative service.

It is recommended that a parent teaching program be introduced into the obstetrical department of more hospitals. This program may be planned by the medical staff and executed by a qualified graduate nurse under the direction of the staff. It should include demonstration of formula making and information on the care of premature and full-term infants. A program of this type has value by preventing problems after discharge from the hospital and reducing the rate of readmissions.

The many services of local health departments are always available to hospitals and physicians to assist and support them in their work with premature infants and their families. The referral procedure is one such service. With the physician's approval a request for pertinent information relating to the home environment to which the premature infant will be exposed is forwarded to the local health department. The public health nurse visits the home and observes for communicable diseases, cleanliness, and ability of the parents and family to care for the premature infant. A report of the inspection is made to the hospital before the infant is discharged. This follow-up service is available for all premature infants and is

not restricted to those hospitalized under the Maternal and Child Health Hospitalization program. The State Health Department encourages a more general use of this referral service.

Premature Centers

The establishment of premature centers, located in one or both of the medical schools for the purpose of demonstrating to practicing physicians, students and public health nurses the most advance methods in the care of premature infants would facilitate training in this area. Demonstrations of the proper techniques, procedures, the use of equipment and the importance of follow-up care of the premature would all be part of the program. Until such a center is

available in Virginia, the State Health Department is encouraging hospitals to send a team consisting of a physician and a nurse to a center outside the State that is qualified for such teaching. Several hospitals have taken advantage of this opportunity without cost to the institution or team.

In conjunction with the premature center, a special clinic may be provided for the follow-up of premature infants. The clinic would be staffed with physicians specially trained in premature care to provide evaluations of and recommendations for premature infants through the age of two years.

A continuing program of evaluation of premature infant deaths also should be undertaken by the hospitals to assist the State Health Department in its program.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Feb.	Feb.	Jan.-	Jan.-
	1965	1964	Feb.	Feb.
			1965	1964
Brucellosis -----	1	1	1	1
Diphtheria -----	0	0	0	0
Hepatitis -----	44	76	108	112
Measles -----	565	960	1287	1498
Meningococcal Meningitis ----	9	4	17	8
Meningitis (Aseptic) -----	1	2	3	4
Poliomyelitis -----	0	0	0	0
Rabies (In Animals) -----	42	61	103	91
Rocky Mt. Spotted Fever -----	0	0	1	0
Streptococcal Infections -----	1064	1556	2475	2749
Tularemia -----	0	0	3	3
Typhoid Fever -----	2	2	2	2

Current Currents

MEDICARE: Because Medicare is now a day-to-day type of situation, your editors cannot possibly predict its status when this issue is delivered. Regardless, however, of what form the bill is in when it reaches the floor of the House, we must be prepared to continue to battle.

One thing that should always be emphasized is the tremendous increase in the Social Security tax rate which any form of King-Anderson is certain to impose. The present rate of 3.625 for each employee and employer would be increased to 5.2 per cent each for a total of 10.4 per cent by 1971. An increase from the present base of \$4,800 to \$5,600 would also be levied.

Another factor often overlooked is that the self-employed rate by 1971 would be 7.8 per cent.

In dollars, the present Social Security rate of \$174.00 each (employee and employer), or a total of \$348.00 on the \$4,800 base, would be increased so that the 1971 dollar amounts would be \$291.00 each—or a total of \$582.00. This, believe it or not, represents an increase of 67 per cent.

KERR-MILLS: Statistics prepared by the Department of Health, Education and Welfare reveal that medical assistance for the aged programs are now operating in forty-four political jurisdictions. The latest state to implement an MAA program is Indiana. New Mexico is expected to join the ranks in the near future—running the total to forty-five.

Six states currently lack enabling legislation. They are Alaska, Arizona, Missouri, Montana, Ohio and Texas. Authorization was voted by the Missouri legislature, but vetoed by the governor.

Georgia and Mississippi have enacted necessary legislation, but operating funds have not been provided thus far.

BACK AGAIN: Rep. John D. Dingell (D-Mich) has quietly introduced HR 5438—an across the board plan for national health insurance covering all ages. The same type legislation was originally sponsored by Rep. Dingell's late father, in collaboration with Sens. Robert Wagner (NY) and James Murray (Mont.).

FOREIGN PHYSICIANS: The United States Committee of the World Medical Association has indicated that 1,600 foreign physicians entered the United States for medical training last year. During 1964, a total of 8,804 foreign physicians were in internship and residency training programs in this country.

KEOGH: The American Medical Association has let the Senate Subcommittee on Employment and Retirement Income know that it supports suggested amendments which would liberalize the Keogh-Smathers law. This is the act which permits self-employed individuals to establish pension plans for themselves and qualified employees.

The amendments would, among other things, redefine the term "corporation" to include professional associations and corporations formed under state law and permit them to be treated as a corporation for tax purposes—including retirement.

MEDICAL ASSISTANTS: The movement to provide better educational opportunities for medical assistants took a big step forward with the announcement that a ten-session course in general office procedures is being offered at Norfolk's Old Dominion College this spring. The course is being presented with the cooperation of the Tidewater Association of Medical Assistants' and the American Association of Medical Assistants' certification program.

OTHER LEGISLATION: Caught up as we are in the Eldercare-Medicare battle, we sometimes overlook other health legislation of considerable importance. Let's take a look at just a few of the bills before the 89th Congress.

H.R. 2987: This bill would establish a mortgage insurance program, and a direct loan program for the construction of group practice facilities. The mortgage, or the loan, could be up to 90 per cent of the value of the property. AMA has said the bill discriminates against solo practitioners and partnerships and is partisan to closed panel groups.

H.R. 2985: This bill would authorize federal grants to pay part of the cost of professional and technical personnel for the initial operation of community mental health centers. AMA has reaffirmed its opposition to initial staffing aid.

S. 596: This bill would establish a five-year grant program to assist universities, medical schools, research institutions and others in the planning, establishing and operating of regional medical complexes for research, training and demonstration of patient care in the fields of heart disease, cancer, stroke and other major diseases.

DID YOU KNOW? Had the Salk and Sabin vaccine not become available, an estimated 35,000 cases of poliomyelitis would have been due to be reported last year in the United States instead of the actual 121 cases.

GRACE MAYNARD SMITH

Comprehensive Planning Toward Combating Mental Retardation in Virginia

A sequence of recent national events has made possible the translation of our concerns for mental retardation into a system of organized action to combat or ameliorate this complex problem. In 1961 President Kennedy appointed a Panel of specialists to prepare a national plan to abate mental retardation. The next year, 1962, the Panel made its comprehensive report. This was followed in 1963 by the White House Conference on Mental Retardation and the passing of major legislation to implement planning activities within the states through Federal funds.

Agencies to administer the Federal grants have been designated by the Governors. In Virginia the Department of Mental Hygiene and Hospitals has been designated as the sponsoring agency. The Governor of Virginia has appointed seventeen persons to serve as the Virginia Mental Retardation Planning Council. These persons, in most instances, head State agencies which are directly or indirectly concerned with the problem of mental retardation including: mental health, health, law, medicine, education, vocational rehabilitation, the Association for Retarded Children, labor and industry, employment, welfare, and others. The Commissioner of Mental Hygiene and Hospitals is Chairman of the Council and the Commissioner of Health is Vice Chairman. A Director has been employed to conduct the Council's planning activities.

The Virginia Council, cognizant of the fact that planning is a tool of management,

seeks to charter a course which will point the way for better facilities and services for the mentally retarded. Courses of Action are designed so as to create a greater awareness of the problem; to work toward prevention; to assess present services in light of further needs; to give impetus to more effective coordination of services on state and local levels; to formulate a report that is concise and realistic—one that will justify public support.

"Key" persons, in specifically designated geographical areas, assist in the selection of individuals who should be invited to the initial regional meeting. These persons represent agencies, both public and private, which are in some way concerned with mental retardation. Also present are those who do not represent specific agencies, yet they are keenly interested in mental retardation for various reasons. A smaller local Study-Planning Committee is selected from among those attending the initial meeting. These persons evaluate their regional facilities and services and face their needs in order of priority. The local Study-Planning Committee will formulate a report which will be forwarded to the Director of the Virginia Mental Retardation Planning Council. The data from all local reports will be processed and used in the final State report.

The very nature of mental retardation is such that it presents complex problems which require unique treatment. There are problems of health, education, rehabilitation and employment objectives, welfare and legislative needs, all so closely enmeshed in the total problem that interagency cooperation and coordination is an essential mechanism in the total process of care and treatment of the retarded. No single agency nor individual can solve the problems extant

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Approved for publication by Commissioner, Department Mental Hygiene and Hospitals.

in mental retardation; concerted group effort is required.

The Virginia Mental Retardation Planning Council recognizes that there are certain impediments involved in the total planning procedures. There is still need for further understanding and acceptance of mental retardation. A number of disciplines are not fully aware of what is expected of them and how best they can respond in the fight to combat mental retardation. Outmoded philosophies and practices continue to emerge in various localities. Social and cultural deprivation is a barrier in the progress of many. There is both professional and public uncertainty about the relationship between mental retardation and mental illness. Then there is the eternal question concerning the source of money for matching Federal assistance grants. Many are concerned with the problem of maintenance and competent staffing of facilities which might be approved and constructed.

Regardless of the complexities involved,

present interest must be sustained and momentum increased in efforts to combat mental retardation. Aside from the humanitarian aspects of the problem, there remains the economic factor which demands attention. According to conclusions drawn from the Joseph P. Kennedy, Jr., Foundation Study, there are approximately five and a half to six million mentally retarded persons in the United States. About eighty per cent of this number can be trained for job placements. For every ten of the mentally retarded which are not trained for jobs, there will be a cost of approximately one million dollars from public and/or private funds for their care during their lifetime.

Education, vocational rehabilitation and employment comprise the main cornerstones of the structure upon which goals can be built. Much of the knowledge of how to achieve these goals is available. The need now is a concerted effort to apply what is already known and to obtain new knowledge.

Treatment of High Blood Pressure

Some advances in treatment have been miraculous. Take for example the treatment of high blood pressure. It is only a few years since there was virtually no treatment at all, apart from general sedation. Then drugs such as the ganglion blocking agents were discovered which could, in some cases, control the blood pressure adequately. But unfortunately the side-effects were troublesome, and patients often preferred to tolerate the disease rather than the depression, visual disturbances, and impotence that went along with the treatment. Gradually these side-effects were eliminated by alteration of formulae, and recently newer drugs have achieved spectacular results.—A. Ian Richardson, M.D., in *Arizona Medicine*, 21: 6, (June) 1964, reprinted from the *Manchester (England) Guardian Weekly*, March 19, 1964.

Diagnostic Laboratory Medicine

The Serological Tests for Syphilis (Lues)

PHASE I

In 1906 Dr. August Paul von Wassermann in conjunction with Dr. Albert Neisser and Dr. Carl Bruck published the results of a new test for the diagnosis of syphilis known as the Wassermann Test. The antigen used at first was an extract of syphilitic livers and other organs from syphilitic humans or animals. Further work demonstrated that an extract of healthy organs such as the lipoidal extract of beef heart could also be used as a satisfactory antigen. This led to the conclusion that in the Wassermann Test the antigen that was measured was not a true antibody, but an antibody-like substance named reagin, which explained in part the many cross-reactions observed. Many modifications of the test were devised. The modification best known in this country is the Kolmer Complement Fixation Test.

In 1907 Michaelis published the results of a flocculation test for the diagnosis of syphilis and during the ensuing years several flocculation tests were developed. The names Kahn, Kline, Mazzini, Eagle, Hinton, Rein-Bossak, Meinicke are known to workers in the medical field and represent variations of the flocculation test for syphilis, each named after the originator of the test.

PHASE II

In 1940 Mary Pangborn, trying to purify the lipoidal extract of beef heart, isolated a non-nitrogenous compound which in conjunction with lecithin and cholesterol in optimal amounts was active as an antigen and was named *cardiolipin*. In all the known tests, the lipoidal extract of beef heart was replaced by the lecithin-cholesterol mixture as an antigen. Due to the non-specificity of

the antigen, a change was also proposed for the nomenclature of reporting results: the terms non-reactive, weakly reactive, reactive, appeared more appropriate than negative, weakly positive, positive. The Venereal Disease Research Laboratory published the procedure of a new flocculation test known as the VDRL test which became the official screening test for the serological diagnosis of syphilis.

PHASE III

Although the use of "*Treponema pallidum*" as an antigen was not new, Noguchi, Kolmer and Tourraine used it in the early part of the century in research work, the practical use of it was hindered by the fact that the antigen was difficult and expensive to produce. A specific antigen for the serological diagnosis of syphilis was needed, for with the use of lipoidal extracts of beef heart and cardiolipin other pathological conditions showed cross-reactivity with syphilis. In 1949 Nelson and Mayer published the results of a test which uses live pathogenic "*Treponema pallidum*" (Nichols strain) as an antigen and became known as the *Treponema Pallidum Immobilization Test (T.P.I.)*. The Nichols strain is a strain of *Treponema pallidum* isolated by Nichols in 1912 from the CSF of a syphilitic patient. The T.P.I. test although the most specific serological test for syphilis in existence is time consuming, expensive and complicated, therefore, its performance is limited to a very few diagnostic centers. The test although specific—lacks sensitivity. This test led to the development of other treponemal tests, some of short life span such as T.P.A. (Treponemal Pallidum Agglutination) Test; T.P.I.A. (Treponema Pallidum Immune Adherence) Test and the T.P.M.B. (Treponema Pallidum Methylene-Blue Test. The introduction into Laboratory

Medicine of the T.P.C.F. (Treponema Pallidum Complement Fixation Test) made one believe that the ideal serological test for syphilis was finally discovered; experience demonstrated that the T.P.C.F. test is not as specific as previously believed.

Two Italian workers, D'Alessandro and Dardaroni, working with the Reiter strain of "Treponema pallidum" (Non-pathogenic strain of "T. pallidum" isolated by Reiter in 1922) were able to isolate a protein fraction from the organism which became known as the *Reiter Protein* and was used with success in a complement fixation test for the diagnosis of syphilis. The production of this antigen was much simpler and less expensive than the "Treponema pallidum" (Nichols strain) antigen. The (R.P.C.F.) Reiter Protein Complement Fixation Test is the most practical of the treponemal tests for the diagnosis of syphilis and quite reliable in differentiating syphilis from non syphilitic diseases which cross reacted as shown by the use of cardiolipin tests.

Accumulated experience with this last-mentioned treponemal test is indicative however that the test is still not faultless. The antigen is responsible for variable results.

Progress in the fluorescent antibody field led to the introduction of a new test, the F.T.A. (*Fluorescent Treponemal Antibody*) test, which is believed to be simple and reliable. Time will prove if this is the case.

During this phase of the diagnostic tests for syphilis, the workers in the field aiming to increase the rapidity of performance of these tests—a prerequisite necessary in any screening procedure—turn their attention again to the cardiolipin test. The results of these experiments are:

The Rapid Plasma Reagin (RPR) test its "Micro-variation" the Plamacrit test (PCT) and the U.S.R. (unheated serum reagin) test

Speed of performance is their only ad-

vantage. No higher degree of specificity is achieved by the use of these tests.

A rapid test using whole blood has been developed and is being evaluated. This is the RPR Card test (Hynson, Wescott and Dunning, Inc., Baltimore, Maryland).

Serological tests for syphilis today are performed according to the following scheme:

- 1) VDRL test—if negative, the results are reported as such if positive:—
- 2) A quantitative VDRL slide test is performed.
- 3) Reiter Protein Complement Fixation Test

and, finally, after consultation with the Division of Clinical Pathology,

- 4) Treponema Pallidum Immobilization Test (Available in four public health laboratories and one private laboratory in this country).

The reliability of the Fluorescent Treponema Test as a diagnostic procedure lies between the Reiter Protein Complement Fixation and Treponema Pallidum Immobilization tests.

One must remember that under certain circumstances even when the results of the screening tests are negative, clinical information and experience may make it advisable to perform a complete series of tests.

While the physician depends upon the laboratory to establish the diagnosis of syphilis, the interpretation of laboratory tests depend upon the clinical picture. Only by correlation of the clinical picture and the tests may the clinician establish the proper diagnosis.

The table shows the results of the serological tests for syphilis performed at the Medical College of Virginia Laboratories from January to June, 1962.

It is an established fact that Venereal Disease is at present placed back into the differential diagnosis because of an increase

	Cardiolipin Flocculation Test		Treponema C.F. Test
	Sp. Fluid	Blood	
Total Number	389	11,447	82
Reactive %			28
Weakly Reactive %	1.5	4.8	12
Non-reactive %	0.2	1.6	37
Anticomplement %	98.3	93.6	5

throughout the world and that the main increase is in the teenage group as well as in homosexuals. This rise in the incidence of syphilis is not seen at the Medical College of Virginia Hospital, where the great majority of patients with a reactive serological test for syphilis are in the older age group. The young syphilitic being ambulatory is

most likely seen by physicians in private practice and not in the hospital.

One should expect a majority of screening tests for syphilis to give nonreactive results. Those suspected by the clinician of having syphilis without a contributory clinical picture show in addition to the reactive screening tests a high percentage of reactive diagnostic tests. In our series this amounts to about 50% of cases evaluated.

J. G. DOS SANTOS, M.D.

*Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia*

Tranquilizer and Permanent Side Effects

One of medicine's most effective drugs against mental disease may be producing permanent side effects. The potentially harmful reactions caused by heavy prolonged doses of phenothiazines—a group of tranquilizing drugs—were presented in an editorial in the January 25th Journal of the American Medical Association.

These effects included skin discoloration, ranging from freckle-like tan to purple and blue-black pigmentation, clouding of the cornea or lens of the eye, and nerve damage resulting in uncontrollable facial grimacing, writhing motions of the mouth and tongue and jerking motions of the limbs.

Most of the data came from studies of chronic patients in Canadian mental hospitals, most of whom had been taking heavy doses of phenothiazines for many years. Results seem to indicate that the conditions are more common among women patients.

The incidence of side effects has not been determined, but according to William Kitto,

M.D., associate director of the AMA Department of Drugs, appear to be relatively rare.

In contrast to possible harmful effects of the drugs, are the inroads phenothiazines have made against mental illness—particularly schizophrenia.

The editorial commented: "The occurrence of such rare sequelae should not detract from the general usefulness of the phenothiazines in the management of schizophrenic illness. Nevertheless, it is important that physicians treating patients with high and prolonged dosages of phenothiazine drugs be aware of the possibility of permanent sequelae following use of these agents."

Although phenothiazines have been in use since 1954, the editorial said, last year was the first time that permanent side effects had been reported. Earlier reports spoke of temporary effects.

Correspondence

1-68 Horinouchi-machi,
Minami-ku, Yokohama,
Kanagawa-ken, Japan
Jan. 4, 1965

To the Editor:

While I was in the United States, as an exchange student at Harvard University, I read a magazine published in the United States during the Second World War, and learned of an incident that is enough to make anyone mad—no matter what side of the battle he was on. *LIFE* magazine for the 22nd of May, 1964, published a picture of a skull of a Japanese soldier that an American soldier had sent from the South Pacific as a souvenir to his fiancée in Phoenix, Arizona. Further, in *TIME* magazine for the 26th of June, 1944, there was an article describing how an American Congressman sent President Roosevelt a letter-opener made from the forearm of a Japanese soldier killed in action.

I am a Japanese Buddhist priest. I firmly believe that as long as such thoughts of hatred and bitterness are not removed from one another's hearts, true and lasting world

peace can never be achieved. I further believe that such relics of those who sacrificed themselves for their country should be treated with the utmost solemnity, for such remains are no longer partisans to a war now ended for nineteen years.

I wish to devote myself to returning such mistreated relics to their homeland. If you know of anyone who has received and possesses such relics, or anyone who has any information regarding such, please be so kind as to inform me at my address.

I sincerely trust that the Americans will show such a spirit towards the slain Japanese soldiers as they once showed towards the fallen British of the American Revolution—such a spirit as preserved in the poem over the grave of the British soldiers at Concord, Massachusetts.

"They came three thousand miles and died,
to keep the past upon its throne;
unheard, beyond the ocean tide,
their English mother made her moan."

Sincerely yours,
Shinko Sayeki

Miscellaneous

Life Saving Medical Identification

The Medic Alert Foundation International has been active in the medical identification field since 1956. The Medic Alert bracelets were first exhibited at the American College of Surgeons Convention in San Francisco in the fall of that year. A great deal of interest was expressed by hundreds of surgeons, many of them recalling fatal or near fatal drug and anesthetic reaction which could have been avoided if the patient's hidden medical problem had been known.

Since its inception, Medic Alert has had practically universal acceptance. More than 125,000 persons in the United States, and in excess of 8,000 in foreign countries are relying on their Medic Alert emblem to speak for them when they are unable to speak for themselves. Six foreign countries have established nonprofit, charitable, tax deductible Medic Alert Foundations similar to that of the United States.

To quote from the 1964 edition of the American Medical Association Directory of National Voluntary Health Organizations:

Medic Alert "is dedicated to educating and encouraging the public to wear on their person a device for identification of any medical problems that should be known in an emergency. The foundation is urging doctors and nurses to advise persons of the importance of wearing such identification. It is seeking to establish an internationally recognized symbol for medical identification."

Medic Alert's identification system is simple, but effective. On the face of the stainless steel or sterling silver emblem designed to wear about the wrist or neck is the snake and staff of Aesculapius flanked by the words, "Medic Alert" and the recently developed insignia of the AMA. On the reverse side is engraved "Taking Anticoagulants", "Neck Breather", "Diabetes", "Allergic to penicillin" or one or more of the 200 hidden medical problems that should be known in emergency.

The heart of the identification system is its Central Answering File. Each Medic Alert emblem is individually serialized. Under this serial number is filed the wearer's name and address, nearest of kin, the member's personal physician, his address and phone number, and any other pertinent medical information desired. The Central Answering File may be reached 24 hours a day by collect telephone call by authorized persons giving first aid or definitive medical care to obtain this information.

It takes no more than 80 seconds from anywhere in the United States, from the time the phone receiver is lifted till data on file is obtained. The member's personal physician is always near at hand.

The Medic Alert Foundation feels that no one should be denied required adequate medical identification regardless of his economic condition. Full memberships are provided on receipt of a statement by a physician that his patient is unable to pay the one time membership fee of \$5.

There is considerable confusion in the minds of professional and lay persons concerning the significance of the AMA emergency symbol. *The AMA has no medical identification program.* It has merely developed the symbol and suggested that it be used to indicate that a hidden medical problem exists in the wearer and that he has information concerning it on his person.

In the Medic Alert file can be found hundreds of instances where the Medic Alert emblem has saved its members useless suffering and even death. Its Central Answering File has identified unconscious, and on occasion, deceased members who had no other identification on them. By calling collect the phone number engraved on the reverse side of the emblem and giving the serial number, within minutes their relatives have been notified or personal physician contacted.

The nonprofit, charitable, tax deductible medical identification system provided by the Medic Alert Foundation is simple and effective. It is universally known in the United States and overseas. Prescription pads for the physician or pamphlets containing application blanks for membership are available without cost. For further information consult the 1964 edition of the AMA directory National Voluntary Health Organization or write to Medic Alert, Turlock, California.

The Medical Society of Virginia . . .

Minutes of Council.

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. McLemore Birdsong, President, at 10:00 A.M. on Wednesday, February 3, 1965, at Society Headquarters. Attending were: Dr. Alexander McCausland, Dr. Richard E. Palmer, Dr. Harry M. Frieden, Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. Kinloch Nelson, Dr. F. Ashton Carmines, Dr. K. K. Wallace, Dr. Thomas W. Murrell, Jr., Dr. A. Tyree Finch, Dr. W. Nash Thompson, Dr. Harry B. Stone, Jr., Dr. Dennis P. McCarty, Dr. Guy F. Hollifield, Dr. W. W. Walton and Dr. Michael A. Puzak. Also attending were: Dr. Boyd H. Payne, 2nd Vice-President; Dr. Thomas S. Edwards, 3rd Vice-President; Dr. W. Callier Salley, Vice-Speaker of the House; Dr. W. Linwood Ball and Dr. Allen Barker, Delegates to the American Medical Association; Dr. Russell M. Cox, Secretary-Treasurer of the State Board of Medical Examiners; Dr. Hiram W. Davis, Commissioner, State Department of Mental Hygiene and Hospitals; and Mr. John B. Duval, attorney for the Society.

Dr. Birdsong advised Council that although the House of Delegates, during its meeting in Norfolk, had rejected a proposed amendment to the Joint Medico-Legal Plan for Screening Medical Malpractice Cases, a request had been made that Council review reasons for the proposed amendment. The amendment in question would have permitted unilateral hearings in those cases where consent could not be obtained from the physician concerned and his attorney.

Dr. John O. Boyd, Jr., Chairman of the Society's Committee to the State Bar, was introduced and asked to discuss the reasons why his Committee supports the proposed amendment. Dr. Boyd explained how the screening procedure had been developed and stated that his Committee had met with representatives of most of the major companies writing professional liability coverage. He conceded that there was some difference of opinion among attorneys representing the companies, but stated that the Plan definitely protected the physician's interests. He added that those defense attorneys having cases reviewed by the Panel were quite complimentary as to how the hearings were conducted.

Dr. Boyd went on to say that without a reasonable

amount of participation, the purpose of the Panel would be defeated. It was learned that a number of inquiries had been received from plaintiff attorneys, but refusal by insurance company attorneys had prevented these cases from being reviewed. It was further stated that in the cases heard by the Panel thus far, voting by Panel members had always been unanimous.

Dr. Boyd expressed the hope that Council would reconsider the recommendation of his Committee as contained in its last report and possibly make suggestions which would enable the Panel to realize its purpose and objectives.

A motion was then introduced by Dr. Palmer which would have Council reconsider the Committee's recommendation to amend the Joint Medico-Legal Plan for Screening Medical Malpractice Cases. The motion was seconded.

There followed considerable discussion during which the question of privileged communication was raised. Mr. Duval was of the opinion that the hearings were privileged and that there need be no worry in this regard. A question was raised concerning whether the Panel should hear a case even if a suit had already been filed, and it was Dr. Boyd's opinion that a hearing should be held.

The local committee system used since 1956 by the St. Paul Company in connection with the Society's own professional liability program was mentioned and Dr. Boyd could see no conflict.

Dr. Murrell read parts of a letter from a Richmond attorney which cited several basic objections to the Screening Panel and expressed the wish that copies of the letter be circulated with minutes of the meeting.

Another question raised concerned expert testimony and just what obligation the Screening Panel had to provide such testimony should it believe an act of malpractice had existed in a particular case. Mr. Duval read an excerpt from the Plan which indicated that such testimony should be provided.

A motion to table the matter was introduced by Dr. Finch. It was seconded and adopted.

A suggestion was then made that Dr. Boyd have his Committee review the Screening Plan for the purpose of removing any objectionable provisions which might exist. Dr. Boyd indicated that this

would quite likely be done before the next Annual Meeting of the Society.

The Medical Disciplinary Act of the State of Washington was then discussed and Dr. Cox asked to express his views. Dr. Cox believed that the Board of Medical Examiners was doing the best job that it could in view of the conditions imposed by the Medical Practice Act. It was his opinion that the Board needed the authority to stay a revocation and also the power to place a physician on probation. Boards with such powers have proved quite effective in solving the disciplinary problem. Dr. Cox went on to say that unprofessional conduct should be spelled out and cited the need of a firm policy on addiction. He also pointed out that the Washington Act does not provide the power to stay revocation.

Council learned that its Executive Committee did not believe that the situation in Virginia warranted an Act along the lines used in Washington. Dr. McCarty then introduced a motion which would refer the Washington Act to the Legislative Committee and the State Board of Medical Examiners for consideration and such action as believed necessary. The motion was seconded.

During the discussion, it was brought out that the Board presently has the power to employ investigators. The thought was expressed that the Virginia Code could and should be strengthened in order for the Board to do a more effective job where discipline is concerned, and Dr. Cox stated that the Board would welcome any assistance the Society could provide.

Dr. Frieden introduced an amendment to Dr. McCarty's motion which would recommend that no new disciplinary board be established. The amendment was accepted and Dr. McCarty's motion adopted.

Council was advised that the new King-Anderson bill (H. R. 1) appears headed for swift action by the 89th Congress. The American Medical Association had called a special meeting of its House of Delegates to consider what steps should be taken, and it was reported that a second educational campaign would quite probably be launched. There was some speculation as to just how much a campaign would cost at the state level and to what extent The Medical Society of Virginia should participate.

A motion was then introduced which would permit the Executive Committee of Council to decide at the appropriate time the extent of Society participation and the amount of money to be expended. The motion was seconded and adopted.

Next to be considered was a request from the

VaMPAC Board of Directors that Council consider including VaMPAC dues on the Society's annual statement. Mentioned was the fact that several states have already done this, and the results have been encouraging. Pennsylvania was mentioned particularly in this regard. Dr. Edwards stated that medicine can no longer ignore politics. He stated that the political action committee movement had never been more important than right now, and that most Congressmen had the greatest respect for its potential.

There was some opposition expressed to including VaMPAC dues on the same statement with Society dues, although there was no particular objection to sending a separate statement in the same envelope. Dr. Wallace then introduced a motion which would permit two statements—one for VaMPAC and one for The Medical Society of Virginia—to be mailed in the same envelope. It was agreed that a perforated type statement would be permissible, allowing the two statements to be easily separated. It was also determined that a suitable explanation of the new procedure should accompany the statements. The motion was seconded.

During the ensuing discussion, Mr. Duval expressed the opinion that the Society might do well to follow the same procedure used by Pennsylvania. The Pennsylvania Medical Society, although using one statement, charges the Pennsylvania Medical Political Action Committee its share of the expense. This serves to emphasize the separate status of each organization and minimize any danger which might stem from such joint billing.

Dr. Wallace's motion was then adopted.

Dr. Barker covered several suggestions he had made as to how the Annual Meeting might possibly be improved. His first suggestion would eliminate the luncheon for the first meeting of the House of Delegates and, instead, have the House meet at 2:00 P.M. This would permit a separate section to be reserved for alternate delegates and other members of the Society wishing to attend the business sessions. It was brought out that it really is most important for as many members of the Society as possible to attend these sessions, and the present arrangement has discouraged their attendance.

Dr. Puzak moved that the suggestions of Dr. Barker with reference to the first meeting of the House of Delegates be approved and adopted. The motion was seconded and carried.

The second suggestion by Dr. Barker was designed to create more interest on the part of the delegates and permit more detailed discussion by Reference Committees. The number of Reference Committees

would be increased to four and made up of members of the House, as well as members of Council. It was also suggested that reports of the Reference Committees be written after thorough discussion in executive session, and that, if possible, Committee reports be mimeographed and distributed to all delegates before the second session of the House.

While everyone seemed to favor that Committee decisions be made in executive session, there was some difference of opinion concerning makeup of Reference Committees. It was brought out that House membership is subject to constant change and that many delegates would not have the advantage of knowing what had transpired in earlier considerations of some problems. On the other hand, there was some feeling that a fresh approach is always good, and that members of Council should be in the minority when Reference Committees are appointed.

It was then moved by Dr. Nelson that the Executive Committee of Council be requested to devise a format for House Reference Committees in accordance with Dr. Barker's suggestions. The motion was seconded.

An amendment was offered by Dr. Puzak which would permit members of the staff of The Medical Society of Virginia to be consulted when the format is considered. The amendment was accepted and Dr. Puzak's motion adopted as amended.

Dr. Salley indicated that the House Rules of Procedure would necessarily have to be revised in view of the above changes. It was agreed that the revised Rules could be presented to Council at its next session.

The Constitution and By-Laws were then discussed and Dr. Salley mentioned that the matter concerning Council makeup had been referred back by the House for further study. He stated that some members of the Society had questioned whether removing ex officio members might possibly affect their services—which are unquestionably quite valuable to the Society.

Following considerable discussion, it was moved by Dr. Wallace that the makeup of Council remain unchanged. The motion was seconded. Following a short period of discussion during which the feeling was expressed that the Commissioner of Mental Hygiene and Hospitals should also be a member of Council, the motion was adopted.

A subsequent motion to make the 2nd and 3rd Vice-Presidents and the Commissioner of Mental Hygiene and Hospitals members of Council was ruled

out of order. This ruling was made in view of the previous motion by Dr. Wallace.

Dr. Salley stated that he would advise his Judicial Committee just how Council felt about the situation.

Council was advised that the House of Delegates of AMA had appropriated funds to install a teletypewriter in each state society office—thereby establishing a rapid communications system linking AMA with all of its constituent societies. Installation and yearly rental charges would be paid by AMA, while each society would pay the cost of messages originating within its offices. Participation is entirely voluntary, but it was reported that only four societies have not installed the teletypewriter units as yet.

While it was agreed that there were some disadvantages as well as advantages to having a TWX unit, it was thought advisable for The Medical Society of Virginia to become a part of the new system. *A motion to participate was seconded and adopted.*

Council next received a progress report from a special committee of the Virginia Council on Health and Medical Care concerning a proposed program promoting the use of an emergency medical identification symbol. A request was made that The Medical Society of Virginia endorse the program and assist its start with a contribution of \$500. Dr. Puzak mentioned a program getting under way in the District of Columbia which would promote a symbol and service provided by the Medic Alert Foundation. It was agreed that the two programs would not conflict.

After deciding that endorsement was the thing most needed at the moment, *Council adopted a motion approving the emergency medical identification program in principle.* The matter of a monetary contribution was held over for future consideration.

A position statement by the American Medical Association's Committee on Blood was discussed, and it was agreed that since blood banks can well be considered medical facilities, the overall directors of such facilities should be Doctors of Medicine. *Dr. Palmer reported some of the events which led to the AMA statement and then moved that the statement be approved. The motion was seconded and adopted.*

The statement, as approved, follows:

"In recent years there has been a dramatic growth of blood banking facilities in the United States. The procurement of human blood and its transfusion to patients are medical procedures which require the direction and supervision of a physician. The ultimate objective of these procedures is the welfare of persons who require blood

or blood derivatives. The medical profession has primary responsibility for the care and treatment of patients, and, therefore, has a paramount interest in evaluating facilities and procedures for blood procurement, storage and use. This responsibility can best be discharged by medical societies at the local level.

"The American Medical Association's Committee on Blood believes that component and constituent medical societies should be informed of proposed and existing blood banking services within the community and should offer guidance to them. In the opinion of the Committee, it is highly essential that the organization of new blood banking programs and the modification of existing ones should have, in the interest of public health and safety, the approval of the county or district medical society, and, therefore, should be coordinated with existing approved blood banking facilities; that *since a blood bank can well be considered a medical facility, the overall director—the top authority in a blood bank should be a doctor of medicine.*"

Council was then advised that a bill to exempt non-profit blood banks from Federal Trade Commission jurisdiction would quite possibly be introduced in the 89th Congress. Both the American Medical Association and the American Association of Blood Banks were reported to favor such legislation and state medical societies have been requested to adopt resolutions of support. The need of such legislation became evident when non-profit blood banks in the Kansas City area were placed in a position of having to use blood from sources not meeting their standards of acceptability.

A motion was introduced by Dr. Palmer which would endorse proposed legislation providing sufficient restraint to prevent abuse. The motion was seconded and adopted.

Since 1950, when the physician draft was begun as a result of the Korean conflict, Dr. J. M. Emmett, Clifton Forge, has served as Chairman of the Virginia Advisory Committee to Selective Service. Appointed by The Medical Society of Virginia, Dr. Emmett has handled a difficult and oftentimes thankless job in a manner which has earned him the respect and gratitude of the National Advisory Committee, Virginia Selective Service officials, the two medical schools, and a great number of Virginia communities.

It was moved that Council accord Dr. Emmett a rising vote of thanks for his efforts on behalf of med-

icine in Virginia. The motion was seconded and unanimously adopted.

Dr. Murrell brought Council up to date concerning Kerr-Mills in Virginia and stated that the Executive Committee and the Advisory Committee to the Department of Welfare had met with Welfare officials for the purpose of obtaining a fee schedule to be used with the MAA program. Mr. Painter and his staff have been most cooperative, and the Board of Welfare has determined that a schedule based upon one-half of the Blue Shield \$4,000 series is the best that can be done at the present time. Dr. Murrell went on to say that Department officials will not be able to put the schedule into effect until June 1, since 47 localities have already exhausted their MAA funds. Also, expenses are increasing and the Welfare Board wants to make sure that the program remains financially sound.

It was further reported that the Welfare Board is recommending that the \$4 office visit fee be retained with no extra allowance for injectables with a wholesale cost under \$1. If a drug costs over \$1, then the physician can bill Welfare for the actual cost.

Dr. Murrell repeated his belief that the Department of Welfare is doing the very best it can and is dedicated to making Kerr-Mills work. He stated that Mr. Painter does not feel that Kerr-Mills will be eliminated, even if King-Anderson is enacted into law.

Council was advised that a suggestion had been made that the Society consider paneling the Conference Room. At the present time, the cinder block interior requires painting approximately every three years.

Dr. Warthen, who serves also as Chairman of the House Committee, spoke in favor of the suggestion and moved that the room be paneled. The motion was seconded. After learning that the cost would not exceed \$1,285, the motion was adopted.

The annual luncheon for Virginia's Congressional delegation was discussed, and it was agreed that this was something the Society should do again in 1965. *It was moved by Dr. Thompson that the luncheon be held and that the staff proceed with making necessary arrangements. The motion was seconded and adopted.*

Next to be discussed was a public hearing to be held in Richmond on February 15 by a special VALC committee considering the problem of the clinical psychologists. The thought was expressed that The Medical Society of Virginia should be represented and that as many interested physicians as possible be advised of the time and date.

It was brought out that clinical psychologists would like to divorce themselves from any supervision by the medical profession and are resisting a move which would bring them under the Board of Medical Examiners.

A motion was then introduced which would have the Society reaffirm its previous action of October 8, 1963, and also support current efforts to bring clinical psychologists under the supervision of the State Board of Medical Examiners. The motion also authorized the President to appoint Society representatives to attend the hearing on February 15. The motion was seconded and adopted.

Dr. Stone read a resolution which was scheduled for introduction at the special session of the AMA House of Delegates on February 6. The resolution, to be introduced by a delegate from the AMA Section on Radiology, would request the AMA Board of Trustees to make a maximum effort to have deleted from H. R. 1 and S. 1 any reference to physicians' professional services. At the present time, radiology, pathology, anesthesiology, and psychiatry are affected to some degree.

It was moved that the resolution be called to the attention of Virginia's delegates to AMA and that they be instructed to give it their support. The motion was seconded and adopted.

Dr. Shanholtz briefly discussed H. R. 4—the Administration's Appalachian bill, and stated that efforts

of the State Department of Health will be directed toward seven counties in the region. All activities will be coordinated with local societies, and programs similar to the Russell County project are being contemplated. He emphasized that this was merely a progress report, and Council requested that it be kept informed of developments.

Council learned that the American Medical Association had suggested that state societies cooperate with State Farm Bureaus in whatever manner is deemed appropriate with respect to seeking enactment by state legislatures of petitions calling for a constitutional convention to consider the issue of legislative reapportionment. It was reported that the Virginia General Assembly enacted such a petition during its recent special session.

Dr. Thompson then moved that The Medical Society of Virginia go on record as endorsing the proposed constitutional convention to consider reapportionment. The motion was seconded and adopted.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD
Secretary

APPROVED:

McLEMORE BIRDSONG, M.D.
President

Stewart R. Fuller, Ambassador of Goodwill

THE UNIVERSITY OF VIRGINIA has never awarded an honorary degree. This policy was determined by Thomas Jefferson who felt strongly about the matter. The loss of revenue from potential donors resulting from adherence to this custom cannot be estimated but the graduates of the University have the satisfaction of knowing that every degree bestowed by this institution has been an earned one. An occasional hardship resulted, however, under this system, when the University community wished to honor someone for whom it had real affection, so a solution gradually evolved which met the situation without offending the memory of Mr. Jefferson.

From time to time individuals have been elected to honorary membership in classes with which they have been closely associated. Coach Earle "Greasy" Neale has long been a member of the Medical Class of 1925, from which earlier he drew a number of members of his football squad. Another example was Stewart R. Fuller, honorary member of the Medical Class of 1903. This particular class was chosen, for during the summer of 1903, just two years after the first 25-bed unit was opened, Stewart, at the age of 16, went to work in the University of Virginia Hospital.

His duties at first were diversified. He answered the telephone, he also drove the horse-drawn ambulance and when an operation was about to begin he rang the bell to summon the medical students. Early in this century, hospitals were generally viewed with suspicion. The public felt that sick people were taken there to die and frequently they did. In the words of Stewart, "The hospital was a lonesome place in those days, people were afraid of it." Stewart did all he could to dispel this feeling. In retrospect he was a pioneer in the field of public relations.

As time went on and the hospital grew, Stewart's talents were recognized and he was assigned to the front entrance. Here he greeted doctors, patients and visitors. Few situations arose with which he could not cope. He had a remarkable memory and an unerring appreciation of the appropriate. His ready smile, his sincere solicitude and his happy choice of expression became a morale factor that permeated the entire hospital. He agonized with medical students during their examinations and when the final grades were posted he laughed with those who rejoiced and grieved with those who despaired.

Dr. Paul B. Barringer, founder of the hospital and Chairman of the Faculty for a number of years around the turn of the century once remarked "There are two perfect gentlemen in the University, Dr. Alderman in the President's office and Stewart R. Fuller in the hospital." In 1953 Stewart was honored for 50 years of service to the hospital and

School of Medicine. He was presented with a scroll of honorary membership in the Medical Alumni Association by its president, Dr. Carrington Williams, and given the "class designation" of 1903 with a loving cup and a watch and chain. His response was brief but moving.

His health declined in recent years and on December 21 he died at the age of 77. He will be sorely missed at reunion time this June, for to many of the older alumni he was the final connecting link between the modest medical department they remember and the enlarged and constantly expanding medical school of today.

HARRY J. WARTHEN, M.D.

The Conservation of Medical Manpower

BECAUSE of the shortage of physicians all of the usual methods for the conservation of the physician's time must be utilized and new methods should be explored. How best to apply these methods to his own practice is a personal decision for each physician. How to change obsolete rules that reduce medical efficiency is a medical society decision.

A carefully planned daily schedule can eliminate much wasted time. The appointments should be arranged in a manner which allows the physician to work at his most efficient rate. The office floor plan should eliminate wasted time and motion. Driving a car is a complete waste of medical manpower and should be reduced to the minimum by keeping the home, office and one hospital within a short distance of each other. Non-essential house calls, duplicate offices and several hospitals are luxuries that can be eliminated.

The physician's time should not be wasted on jobs that could be performed by someone with less training. Many routine duties can be delegated to nurses, secretaries, technicians, physical therapists, dieticians, social workers and administrators. The allied professions of podiatry, osteopathy, optometry and psychology could be used to better advantage on the health team. The training in these professions has been improved in the past few years and we should review the restrictions placed upon these groups. Better liaison with the allied professions would result in mutual understanding and better patient care.

JAMES M. MOSS, M.D.

New Members.

The following new members were received into The Medical Society of Virginia in the month of February:

Leon Irving Block, M.D., Falls Church
Joseph Carlucci, M.D., Norfolk
Renald Arthur Cote, M.D., Alexandria
Cosmo A. DiFazio, M.D., Charlottesville
Robert Troy Gaughan, M.D., Alexandria
Harold Edwin Gillespie, M.D.,
Williamsburg
William Stokes Houck, Jr., M.D.,
Richmond
James Arlington Kirkland, M.D.,
Emporia
E. N. Koulizarkis, M.D., Falls Church
James Edward John, Jr., M.D., Suffolk
John Barten Kayan, M.D., Charlottesville
James Irvin Masloff, M.D., Petersburg
Ralph Ruiz Novoa, M.D., Nassawadox
Neel Jack Price, M.D., Falls Church
Emile S. Sayegh, M.D., Portsmouth
Andrew Frederick Scheele, M.D.,
Manassas
John C. Sherburne, M.D., Falls Church
Sergei Leonid Snegireff, M.D.,
Charlottesville
Howard P. Treichler, M.D., Falls Church

Fairfax County Medical Society.

Dr. John E. Prominski, Falls Church, is president of this Society for 1965, and Dr. C. Barrie Cook, Fairfax, secretary.

Wise County Medical Society.

Officers for the Wise County Medical Society are: Dr. L. K. Ingram, president; Drs. D. B. Jones, J. T. Phillips and Fred Maphis, vice-presidents; and Dr. Joseph M. Straughan, secretary-treasurer.

Rockbridge County Medical Society.

Officers for this Society are Dr. E. V. Brush, president, and Dr. John Yaeger, secretary-treasurer.

Southwestern Virginia Medical Society.

Dr. Garrett Dalton is president of this Society, with Dr. William W. Walton vice president, and Dr. Joseph Early, secretary-treasurer.

Dr. J. T. O'Hanlan,

Waynesboro, has received the Exchange Club's coveted "Golden Deeds Award" for outstanding service to physically handicapped students at Woodrow Wilson Rehabilitation Center and for fifteen years as team physician at the Waynesboro High School.

Dr. Marshall T. Garrett,

Charlottesville, has been awarded a pin and certificate of appreciation upon completion of twenty years of service as medical advisor to the city and county Selective Service Boards.

Dr. Charles M. Caravati,

Richmond, gave one of the four keynote addresses at the annual meeting of the American Society of Internal Medicine in Chicago, March 19-21. His subject was The Internist and His Colleagues.

Dr. Tom Harter,

Bristol, has been elected chairman of a committee seeking to form a Bristol Fine Arts Council.

Dr. Beachley to Retire.

Dr. Ralph G. Beachley will retire in July as director of the Arlington County Health Department. He will have completed twenty-seven years of service and under his administration the department has been expanded greatly. Under his tutelage, the department has grown from six employees to more than one hundred and is one of forty throughout the nation approved for residency training for officers desiring to

qualify for the American Board of Preventive Medicine in Public Health.

American Cancer Society.

The 1965 scientific session of this Society will be held at the Drake Hotel, Philadelphia, June 16th. The subject for discussion will be Hormones and Chemotherapy for Cancer. At the morning session, Problems and Pitfalls in the Evaluation of Chemotherapy will be presented by Dr. David A. Karnofsky, New York; Nature and Example of Joint Clinical Studies by Dr. Lyndon Lee, Jr., Washington; Therapy in Advanced Breast Cancer by Dr. Edward F. Lewison, Baltimore; Chemotherapy in Advanced Breast Carcinoma by Dr. Michael J. Brennan, Detroit; Hormone Therapy in Advanced Breast Cancer by Dr. B. J. Kennedy, Minneapolis; Chemotherapy of Chorioepithelioma and Related Trophoblastic Diseases by Dr. Griff T. Ross, Bethesda. Discussions will be conducted by Drs. Michael Shimkin, Philadelphia; Robert G. Ravdin, Philadelphia; and Warren R. Lang, Philadelphia.

The afternoon session will be on Carcinoma of the Ovary and Uterus by Drs. C. Paul Hodgkinson, Detroit; Sydney Kofman, Chicago; and Robert W. Kistner, Brookline, Massachusetts; with the discussion led by Dr. George C. Lewis of Philadelphia. Melanoma and Adjuvant Therapy will be discussed by Drs. Donald B. Rochlin, Los Angeles; Warren H. Cole, Chicago; and George P. Rosemond, Philadelphia. Chemotherapy in Childhood Cancer (Except Leukemia) will be presented by Dr. W. W. Sutow, Houston; and Combined Chemotherapy and Radiation for Solid Tumors in Adults by Dr. Vernon H. Reynolds, Nashville; with the discussion by Dr. C. Everett Koop, Philadelphia. Chemotherapy for Lymphomas and Leukemias will be presented by Dr. Emil Frei, III, Bethesda, and discussed by Dr. Timothy R. Talbot, Philadelphia.

At the evening session, The Molecular Biology of Development will be discussed by Dr. James Bonner, Pasadena.

Foreign Fellowship.

The Smith Kline & French Laboratories is again offering its Foreign Fellowship to 28 American medical students. Mr. L. Barth Reller, a junior at the University of Virginia School of Medicine, is one of this year's recipients. He has been awarded a \$1,523.00 fellowship which will permit him to assist at a mission hospital in East Africa for a 15-week period beginning in June.

Associates Wanted.

Generalist of internist, Richmond, Virginia, suburb, to share very active clinic-type practice; some surgery optional; new fourteen room air-conditioned building with complete diagnostic facilities. Alternate working hours and weekends. Salary with extras first, then partnership.

A second semi-retired physician is also needed for restricted practice.

Send complete biography to #80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Needed.

General Physician—Family Internist—by four-man group in growing rural program in West Virginia. Modern clinic facilities, regularly visiting specialist consultant staff, scheduled training and vacation periods, foundation sponsorship, no investment required. Starting net income \$14,000-\$18,000 depending on qualifications.

For further information, write #20, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Wanted.

Assistant to State Penitentiary Medical Director, Richmond. Flexible working hours, daily sick call. Private practice not excluded. Well equipped and modern hospital. Salary range, \$12,000 to \$14,328. Reply to #50, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituaries

Dr. William Cline Moomaw,

Oxford, Pennsylvania, died March 1st, at the age of ninety-one. He was formerly located in Bedford where he practiced ophthalmology and before that he had practiced in Petersburg and Port Chester, New York. Dr. Moomaw was a graduate in medicine from the University of Virginia, class of 1903. He began his practice among the Navajo Indians near Ft. Defiance, Arizona. He has been a member of The Medical Society of Virginia for fifty-four years.

A son and two daughters survive him.

Dr. Francis Harrison Lee,

Richmond, died February 19th. He was seventy-six years of age and a graduate of the Medical College of Virginia in 1913. Dr. Lee was an eye, ear, nose and throat specialist on the staff of St. Luke's Hospital and McGuire Clinic. He was a past president of the Richmond Ear, Nose and Throat Society and a member of the Jamestowne Society. He served as a medical officer in the Navy during World War I. Dr. Lee had been a member of The Medical Society of Virginia for thirty-one years.

His wife and two sons survive him.

Dr. Henry Thomas Garriss,

Richmond, died February 18th, at the age of seventy-one. He was a graduate of the Medical College of Virginia in 1924. Dr. Garriss served with the Marine Corps during World War I and received the Croix de Guerre from Marshall Petain, the Silver Star from Franklin D. Roosevelt, a citation from Major General Lejeune, and another citation from General John J. Pershing. He was a member of The Medical Society of Virginia, having joined in 1931.

His wife and a brother survive him.

Dr. Nofsinger.

With sorrow and regret we come to record the death of Collins Denny Nofsinger at Roanoke, February 9, 1965, after an attack of coronary thrombosis on January 23, 1965.

Dr. Nofsinger was born December 27, 1896, at Fincastle. He attended Roanoke College and the Medical College of Virginia where he graduated in medicine in 1922. After internship at St. Luke's Hospital in Richmond, he did post-graduate work at Harvard University Medical School, Washington University in Saint Louis, and the Mayo Clinic at Rochester, Minnesota. He was certified by the Board of Internal Medicine in 1937. He was a Fellow of the American College of Physicians and the American Medical Association.

Dr. Nofsinger was a past chairman of the Virginia Section of the American College of Physicians and also the Virginia Section of the American Diabetes Association. He was also a past president of the Roanoke Academy of Medicine.

Dr. Nofsinger was an outstanding member of the Staff of the Lewis-Gale Hospital for forty years. For many years he held the position of Chief of Internal Medicine. At the time of his death he was Chairman of the Board of Directors.

In the science and art of medicine he was an accomplished artist. His patients sensed the fact he was not only interested in their disease but in them as persons and individuals. Many will feel a deep sense of loss in his death.

He was a member of the Raleigh Court Methodist Church.

He is survived by his wife, two daughters and a son.

WHEREAS: The Roanoke Academy of Medicine shares in this loss and wishes to take some action that might indicate our sympathy and concern in this bereavement

BE IT RESOLVED: That a copy of this resolution be entered in the minutes of the Society, another sent to his widow, and another to the Virginia Medical Monthly.

ALLEN BARKER, M.D.

BLANTON P. SEWARD, M.D.

PAUL DAVIS, M.D.

Dr. Murrell.

Dr. Thomas Whitehead Murrell was born in Lynchburg, October 2, 1880. His family moved to Rich-

mond in 1890 where he attended the Richmond Public Schools. He entered the University College of Medicine and graduated in 1900 at the age of twenty. He served an internship at the Virginia Hospital and then entered private practice. During the following two years he was associated with Dr. Lewis Wheat and was an Assistant in the Department of Anatomy at the College.

He went to London where for a year he studied at the University of London, under Dr. Radcliffe Crocker, and also studied in the Laboratory of Dr. Paul Ehrlich in Germany. Returning to Richmond he entered the practice of dermatology and syphilology. Because of his association with Ehrlich he was one of the first doctors in the United States to obtain a supply of Salvarsan, and he administered the first injection of this arsenical to a patient with syphilis that was ever given in Virginia and probably the first such injection given in any Southern State. When the injection was finished he addressed the patient and said, "Son, you are now cured." Ehrlich himself believed that a single injection of this arsenical would cure syphilis. His interest in syphilis continued and he published a good number of papers on the clinical course and the treatment of this disease. He also published numerous papers concerning various dermatological entities, such as acne, the management of various eczematous dermatoses, leprosy, and the use of x-ray in dermatology.

He published several papers on the history of medicine, his last being the historical account of the "Exodus of Medical Students from the University of Pennsylvania to the Medical College of Virginia" just prior to the outbreak of the War Between the States. Dr. Murrell was an avid student and as an historian he wrote several articles on the Civil War. He had a profound belief that the peoples of the South showed a type of courage and integrity which should be emulated by mankind for generations to come.

He was a deeply interested and well informed student of English literature. Since his early twenties he had a great interest in music and was an accomplished pianist. He composed five compositions of church music that were used in St. Stephens Church where he was an active member of the Choir for twenty-five years, he had also been a Vestryman at St. Stephens Church. He had many avocations, one was golf and three times he won the yearly golf tournament sponsored by The Medical Society of

Virginia. He was an addict to fishing and boating which sport he enjoyed until a few months before his death.

As a physician he was beloved by his patients, because of his intense interest and desire to relieve them of their suffering. He was always sympathetic and as a true physician he tried to understand the emotional status of each patient. He was never so rushed that he did not take time to let his patients know of his deep interest in their case.

Dr. Murrell was former President of the Richmond Academy of Medicine, and he was one of the founders of the Section of Dermatology and Syphilology of the Southern Medical Association. He served as a Councillor of the Southern Medical Association for a number of years. He was a Diplomate of the American Board of Dermatology, a member of the American Academy of Dermatology, a member of the American Dermatological Association, The Medical Society of Virginia and the American Medical Association.

In his eighty-first year he was invited to give a series of lectures at the American University in Beirut, Lebanon, and was a visiting lecturer at several American University Medical Schools. He was a member of the Alpha Omega Alpha honorary medical fraternity, and in 1955 the Medical College of Virginia honored him with a degree of Doctor of Literature. Dr. Murrell was a member of the faculty at the Medical College of Virginia for fifty years, and during the last twenty five years he was professor of dermatology and syphilology.

Dr. Murrell had a great sense of humor, as a raconteur he had few equals, his charm, his wide knowledge of so many subjects made him a most entertaining conversationalist. These and other ingratiating qualities always insured his legion of friends a delightful session whenever it was their privilege to be in his company.

We all grieve in the loss of Dr. Tom, a very remarkable man, but all of his friends and patients were blessed to have known one of God's finest gentlemen.

It is moved that this resolution be included in the minutes of the Richmond Academy of Medicine and that a copy be sent the Virginia Medical Monthly and to his family.

CARRINGTON WILLIAMS
JOHN BELL WILLIAMS
RICHARD W. FOWLKES, *Chairman*

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(Founded by Landon B. Edwards, M. D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

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Annual Subscription—\$2.00

Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL

The Changing Concept of Birth Control—*Homer N. Calver* 201

ORIGINAL ARTICLES

Adrenal Surgery for Hypertension—*Patrick C. Devine, M.D., John A. Byrd, M.D., Andrew M. Fekete, M.D., and Levi Old, Jr., M.D.*..... 204

Diverticulitis—*Guy W. Horsley, M.D.*..... 212

The Changing Indications for Surgery in Thyroid Diseases—*Claiborne W. Fitchett, M.D., and C. Carroll Smith, M.D.*..... 217

Neuro-Otologic Manifestations of Cerebellopontine Angle Tumors—*James Parker Cross, Jr., M.D.*..... 220

Paraffinoma—*William Phillip Gibbs, M.D.*..... 223

Calabar Swelling in Virginia—*J. G. dos Santos, M.D., Robert Irby, M.D., and Gerald Allen, M.D.*..... 226

DIAGNOSTIC LABORATORY MEDICINE

Endocarditis—*M. J. Allison, Ph.D.*..... 229

PUBLIC HEALTH

Recent Developments in Industrial Hygiene..... 231

MENTAL HEALTH

Children's Emotional Disturbance in General Practice—*Hans S. Stroo, M.D.*..... 233

EDITORIAL

A Roentgenologist Looks at the Gallbladder, 1965—*Christian V. Cimmino, M.D.*..... 237

MCV and UVA—Please Note—*Harry J. Warthen, M.D.* 240

NEWS 241

OBITUARIES 244

The MONTHLY is not responsible for the opinions and statements of its contributors

All advertisements are accepted subject to the approval of the Editorial Board.

Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 48

Guest Editorial

The Changing Concept of Birth Control

THE YEAR OF 1964 may be called the Semi-Centennial of the birth control movement in America. Margaret Sanger who started this movement in New York City in 1914 stated that her purpose was to "advocate contraception on feministic and libertarian grounds."¹ Mrs. Sanger was jailed for her crusade. Now it is permitted to give birth control information in all but two states (Massachusetts and Connecticut). Birth control can now be talked about openly. It has thrown off the cloak of public secrecy that once also shrouded tuberculosis, cancer and the venereal diseases. Certainly the subject has been a matter of private conversation for a very long time in nearly all cultures. But birth control as a matter of private concern is now recognized to be a matter of great public concern in many countries including the United States.

This public concern has followed from the alarming projections of the demographers and the warning of the economists. The Bureau of the Census announced that at approximately 8:30 P.M. EST on June 22, 1964, the estimated population of the United States had reached 192,000,000. If the current geometric increase of 2% per year continues unchecked the Bureau estimates that the population of this country will approximate 400,000,000 about 40 years from now which will more than double our overall population density.

Many of our best thinkers have not yet identified the upsurge in population with some of the evils which confront us today, especially some of those connected with the world-wide trend toward urbanization. Poverty, hunger, housing, delinquency, unemployment, civil commotion and inadequate education facilities are all related to the population increase. In all these areas we are trying to deal with end results at great public expense. It is time for the medical and public health professions

to assume their preventive roles in these areas as they traditionally have in other areas.

Dr. Wood has pointed out² that Albert Einstein placed the responsibility for the present population crisis on the medical profession. He quotes Professor Einstein as follows: "Progress of hygiene and medicine has completely altered the earlier precarious equilibrium of the quantitative stability of the human race." Elsewhere Dr. Wood has emphasized that the physician charged with responsibility for the health of his patients—in his office or in the clinic—has a duty to advise on the importance of child spacing and giving information to parents as to how this can be accomplished.

The serious nature of the problem has recently been emphasized also by Adolf W. Schmidt, President of the A. W. Mellon Charitable and Medical Trust. He said: "If we do not wish to enter upon an intelligent program of *birth control* then we must reassess all our research, preventive and cure programs of *death control*. The Rockefeller Foundation has done this and on its fiftieth anniversary has terminated or is phasing out its programs and projects in the medical, biological and life sciences in the developed countries in order to major on the population problem world wide."³

Dr. Snyder, Dean of the Harvard School of Public Health also has emphasized the importance of education. He says—"I am convinced that the profession of public health must accept responsibility for introducing, with great vigor and ingenuity, the elements of effective education in matters of health, at the same time that it applies measures for prevention and control of disease. In the term, effective education in matters of health, I specifically include the information required for regulation of reproduction by the populations involved."⁴

In attacking the population crisis as a severe public health problem, we have more information than we had when public health pioneers set forth to conquer some of the scourges of the past.

We have available the great body of information which has been provided by thousands of patient researchers. We know about the many medical, surgical, chemical, mechanical and behavioral means of preventing conception. We have some knowledge of how to persuade people to accept preventive measures. Indeed usually little persuasion is needed. Rather parents crave information. The warnings and observations of the demographers, philosophers and economists are at hand. Already there is a vast accumulation of experience in this field through the work of public health nurses, physicians, health educators, social workers and others. The imperative today is to hitch together this vast amount of technical

information and clinical experience into action programs. In this campaign the medical profession has a key role. Virginia physicians have already taken a leading role in voluntary sterilization programs in Fauquier, Accomack and Northampton Counties.

What we are doing so well today in public and private preventive medicine and medical care is largely for the benefit of those who are alive today. For the benefit, and indeed perhaps the survival, of our children and grandchildren we need equally vigorous medical services to check the accelerating upsurge of population.

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HOMER N. CALVER

Pumpkin Lane
Staatsburg, New York

Editor's Note: Mr. Calver is Chairman, Public Health Committee, Association for Voluntary Sterilization, 515 Madison Avenue, New York, New York.

Adrenal Surgery for Hypertension

PATRICK C. DEVINE, M.D.
JOHN A. BYRD, M.D.
ANDREW M. FEKETE, M.D.
LEVI OLD, JR., M.D.
Norfolk, Virginia

It is very gratifying to diagnose and to treat hypertension producing tumors of the adrenal gland successfully. Two such cases, one primary aldosteronism and the other pheochromocytoma, are reported.

IN RECENT YEARS, surgery has begun to play an ever increasing role in the management of patients with hypertension. Although the surgical management of essential hypertension with sympathectomy or adrenalectomy has fallen from favor, the surgeon plays a large role in the management of hypertension due to specific lesions such as renal vascular disease, pheochromocytoma or paraganglioma, Cushing's syndrome, primary aldosteronism and coarctation of the aorta.

It is the purpose of this communication to present recent representative cases of primary aldosteronism and pheochromocytoma, diagnosed and treated successfully at the Norfolk General Hospital.

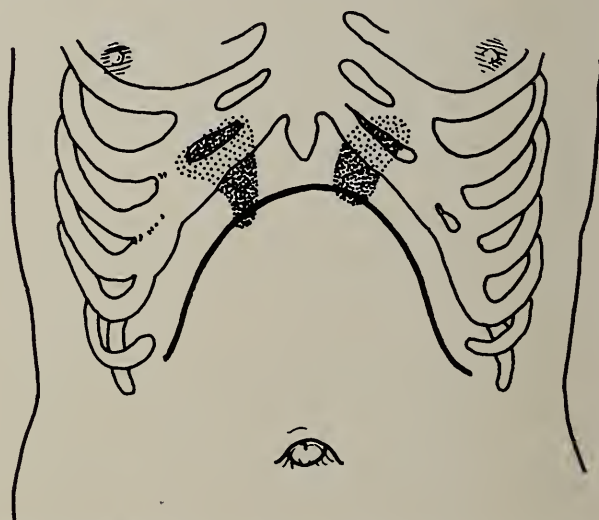
Primary Aldosteronism

The adrenal cortex produces corticosteroids, androgens and estrogens. An excess production of corticosteroids can lead to Cushing's syndrome or to primary aldosteronism, both of which can produce hypertension.¹¹

Since Conn first described primary aldosteronism in 1955, 145 cases have been reported in the literature.^{2,3}

Primary aldosteronism is usually due to a benign cortical adrenal adenoma of the zona glomerulosa, leading to hypersecretion of the mineralocorticoid, aldosterone, which leads to potassium excretion and sodium retention. Less frequently is primary aldosteronism due to bilateral adrenal hyperfunction with or without hyperplasia or to adrenal carcinoma. In fact, only three adrenal carcinomas producing primary aldosteronism have been reported to date.⁶

The clinical picture of aldosteronism presents the three key features of hypertension, hypokalemia and metabolic alkalosis. A hypertensive patient presenting with mus-



TRANSVERSE UPPER ABD. INCISION

Fig. 1

cular weakness, nocturnal polyuria, headache and polydipsia should be evaluated for primary aldosteronism.

The laboratory studies show hypokalemia,

hypernatremia and metabolic alkalosis. The urinary aldosterone excretion is elevated.

The electrocardiographic changes are compatible with hypokalemia. Occasionally, but rarely, an adrenal mass is discernable on intravenous pyelogram or laminogram.

The differential diagnosis in a hyperten-

sive patient includes chlorothiazide diuretic usage, diarrhea and vomiting and potassium wasting renal disease. Renal vascular disease, cirrhosis of the liver and congestive heart failure cause secondary aldosteronism. Heavy ingestion of licorice causes factitious or pseudopri-mary aldosteronism.⁴

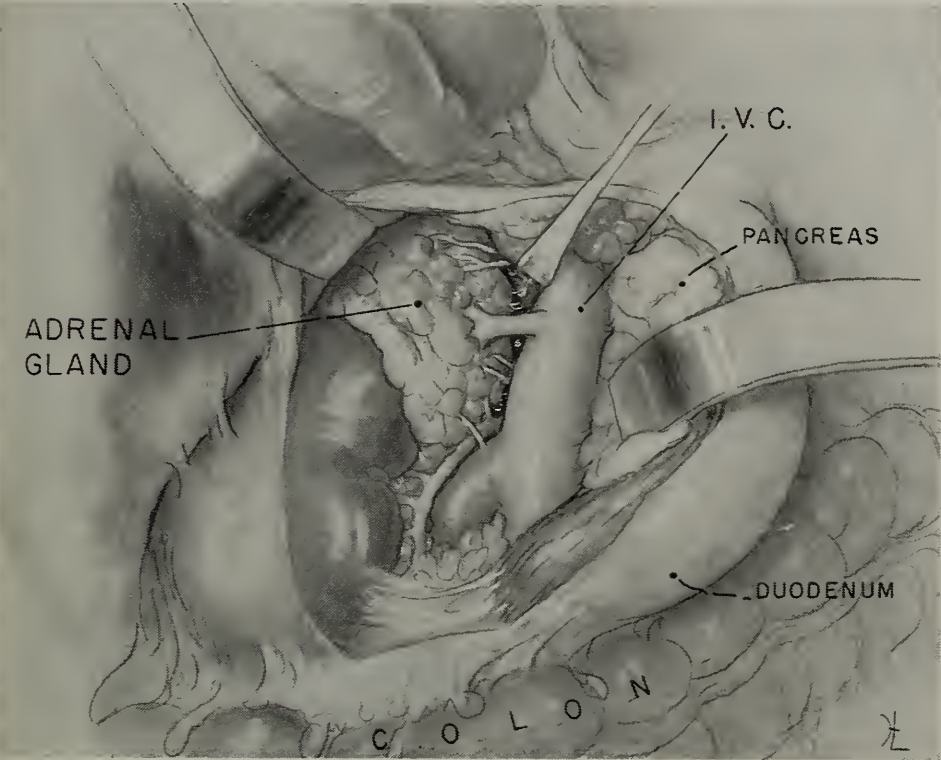


Fig. 2

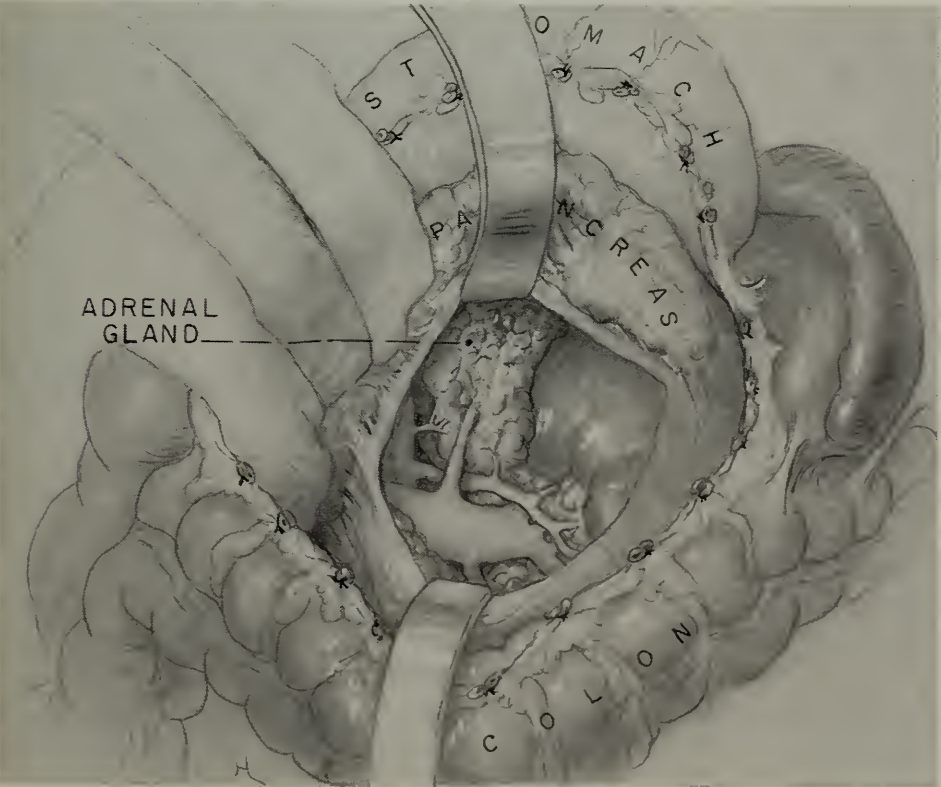


Fig. 3

Transperitoneal exposure of the right adrenal (Fig. 2) and left adrenal (Fig. 3)

After a diagnosis of primary aldosteronism is made, preparation should be carried out for surgery and the potassium balance should be restored. This can be done by administration of exogenous potassium, sodium deprivation, or administration of an aldosterone antagonist.¹³

The operative procedure should be done under general anesthesia, and it is felt that curare should be avoided as hypokalemia potentiates the muscle relaxant effect of curare to possibly dangerous levels.¹² The anterior transabdominal approach through a transverse celiotomy is preferable to flank or thoracoabdominal incision, so that both adrenal glands can be carefully inspected.⁵

The desirable treatment of primary aldosteronism is excision of the cortical adenoma. In the cases of bilateral adrenal hyperfunction with or without hyperplasia, a subtotal adrenalectomy should be carried out leaving about 20% of the left adrenal gland near the adrenal hilum with good vasculature.

Case Report on P. S.:

P.S., a 47-year-old colored female, was seen in March, 1962, with headaches, transient vertigo, weakness, fatigability, paresthesias, dyspnea, and urinary frequency with nocturia.

Her family history revealed that several siblings had significant hypertensive disease.

Physical examination revealed a moderately obese, colored female, with apathetic facies. Blood pressure 270/170. The optic fundi were of Grade II Keith Wagner variety. Clinical cardiomegaly was demonstrable, but there were no congestive signs or arrhythmia. Electrocardiogram revealed left heart strain pattern, and chest roentgenography showed cardiac enlargement with left ventricular prominence. The urine was alkaline with good concentration. The BUN, uric acid and creatinine were normal. Serum potassium was two milliequivalents per liter, and serum CO₂ was forty milliequivalents per liter. Serum sodium was 148 milliequivalents per liter.

The patient was hospitalized at the Norfolk General Hospital in April, 1962. The hypokalemic alkalosis was persistent. BUN and PSP were normal. An intravenous urogram revealed marked diminution in concentration. A retrograde pyelogram, however, showed normal upper urinary tracts. Retroperitoneal pneumography showed no adrenal tumor. The patient excreted 28 micrograms of aldosterone in twenty-four hours (normal 2 to 15 micrograms.)

Adrenal exploration was recommended, but the patient refused surgery.

Because of progression of symptomatology, which became almost incapacitating, the patient agreed to treatment in July, 1963. After several days preparation with a spironolactosteroid and oral potassium medication, the patient underwent a bilateral adrenal gland exposure. A walnut-sized adrenal cortical adenoma weighing two grams was excised from the left adrenal gland.



Fig. 4. Photograph of left adrenal adenoma in situ.

The clinical course following surgery was uncomplicated. The muscle weakness, fatigability, and parasthesias disappeared and an immediate, remarkable feeling of well-being ensued. There was gradual progressive reduction in her blood pressure. The electrolyte pattern promptly reverted to normal. Electrocardiograms revealed lessening left heart strain.

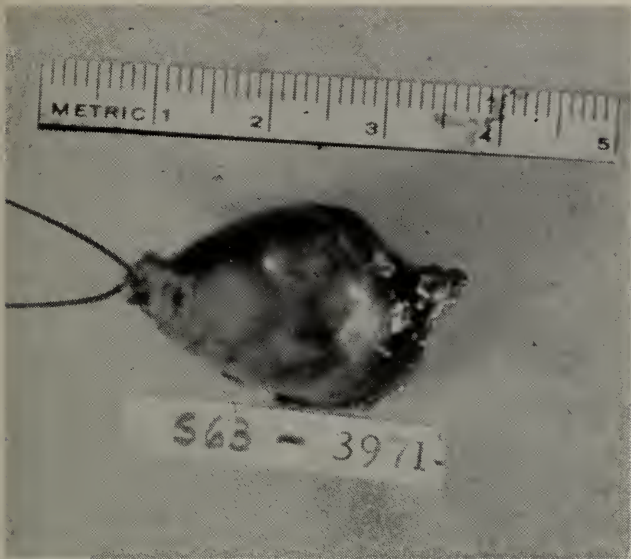


Fig. 5



Fig. 6

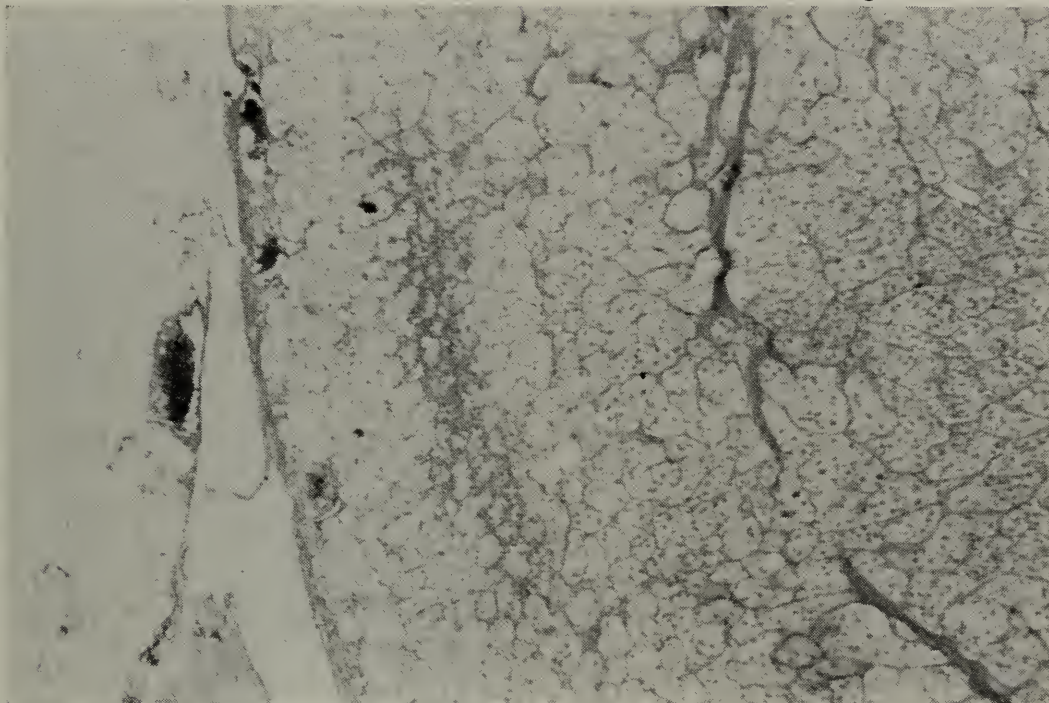


Fig. 7

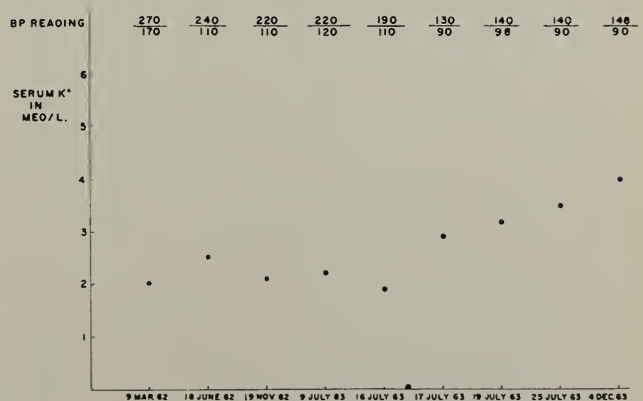
Gross (Figs. 5 & 6) and microscopic (Fig. 7) of aldosterone secreting adenoma of left adrenal gland.

Six months after operation, the patient was asymptomatic with blood pressure 180/90 and normal biochemical studies as shown in Table I.

Pheochromocytoma

Pheochromocytoma is a tumor of the adrenal medulla producing an excess secretion of dopamine, epinephrine and norepinephrine. The excess secretion of these substances leads to hypertension.¹¹

Pheochromocytoma has sometimes been called the 10% tumor, because about 10%



SERUM POTASSIUM LEVELS AND CORRESPONDING BLOOD PRESSURE READINGS AT INTERVALS DURING CLINICAL COURSE OF PATIENT WITH ALDOSTERONE SECRETING TUMOR OF THE LEFT ADRENAL GLAND. NOTE DROP IN BLOOD PRESSURE AND CONCOMITANT RISE IN SERUM K⁺ ASSOCIATED WITH REMOVAL OF THE TUMOR. *SURGERY

Table I

are bilateral, about 10% extra-adrenal, and about 10% multiple. Right adrenal tumors are more common.

Kvale found fifty pheochromocytomas in eight thousand screened hypertensive cases at the Mayo Clinic.¹⁰ Graham has estimated that about 600-800 new cases should be found per year in the United States.⁷

Pheochromocytomas are usually benign, but about 2-4% have been malignant. Only 14% of these tumors are large enough to be palpable.⁷ Increased familial occurrence and association with pregnancy has been reported. There appears to be some association of pheochromocytoma with neurofibromatosis and intracranial hemangiomas.¹

Pheochromocytoma usually occurs between ages 20 and 50, and there is no particular sex incidence; however, patients with this tumor are usually thin.⁹

According to the classic paper by Hume,⁸ "Hypertension warrants careful investigation if it is associated with: (1) any sort of attack; (2) diabetes or an elevated fasting blood sugar, especially between the ages of twenty and fifty and if the basal metabolic rate is elevated; (3) an elevated basal metabolic rate or clinical hypermetabolism, especially in the presence of a normal serum cholesterol and the absence of an elevated plasma protein-bound iodine, and increased thyroid radioactive iodine uptake; (4) the absence of renal disease or coarctation in children; (5) postural hypotension, vasomotor phenomenon, an elevated temperature or excessive sweating; (6) pregnancy, especially with persistent headaches, vomiting and perspiration in the last trimester, hypertension in the first trimester, or a hypertensive episode or shock during delivery or in the postpartum period; (7) neurofibromatosis; (8) a familial history of pheochromocytoma; (9) a previously removed pheochromocytoma; (10) a positive reaction to the regitine test; and (11) weight loss or failure to gain weight in a thin person."

The histamine test is used as a screening

test between paroxysmal attacks. The regitine test is used as a screening test for the more common sustained hypertension. In recent years, a screening test for pheochromocytoma utilizing vanillyl mandelic acid paper chromatography has been helpful for widespread screening.

The diagnosis can be confirmed by an elevated urinary catecholamine or by the more complicated blood catecholamine determination.

Localization of the pheochromocytoma with a palpable tumor is, of course, simple. On occasion, massage of the flank may result in hypertension, thus localizing the tumor. Occasionally, the tumor is visible on intravenous pyelogram. Retroperitoneal pneumogram has been utilized for localization as has laminogram or aortogram.

The definitive treatment of pheochromocytoma is surgical excision. Celiotomy is the preferred surgical approach except for an occasional localized tumor which should be directly approached to facilitate removal. It must be recognized that direct approach does not afford adequate assessment of all possible tumor sites and that subsequent exploration is necessary when clinically indicated. The blood pressure must be carefully controlled by use of intravenous regitine and norepinephrine during and following the operative procedure.

Case Report on C. H.:

C. H., a 36-year-old white female, had a six-year history of headaches, flushing, and hypertension of increasing severity. In 1957, she had a negative investigation for hyperthyroidism, because of a rapid pulse rate.

She was normotensive during her pregnancy nine years earlier.

Physical examination revealed a well developed, thin, anxious, white female, who had a flushed appearance and whose skin was unusually sweaty and warm. Height 65½ inches. Weight 112 pounds. Pulse 84. Blood pressure 210/100. There was marked spasticity of the renal arterioles. There was no

thyroid enlargement. The heart was regular and was not enlarged. No abdominal mass was noted.

All base line laboratory work was normal. The electrocardiogram showed severe myocardial ischemia. A suggestion of a right adrenal mass was noted on intravenous pyelogram.

She was hospitalized and a regitine test was performed with dramatic response, with the blood pressure falling from 230/120 to 80/60 in thirty seconds. During this episode, she experienced marked sweating, tachycardia and weakness, but these symptoms subsided in ten minutes with the return of the blood pressure to 180/102. Urinary catecholamine was 14.9 micrograms per twenty-four hours (normal 0 to 10 micrograms). A retroperitoneal pneumogram was done and a seven centimeter mass was outlined above the right kidney. (Fig. 8)

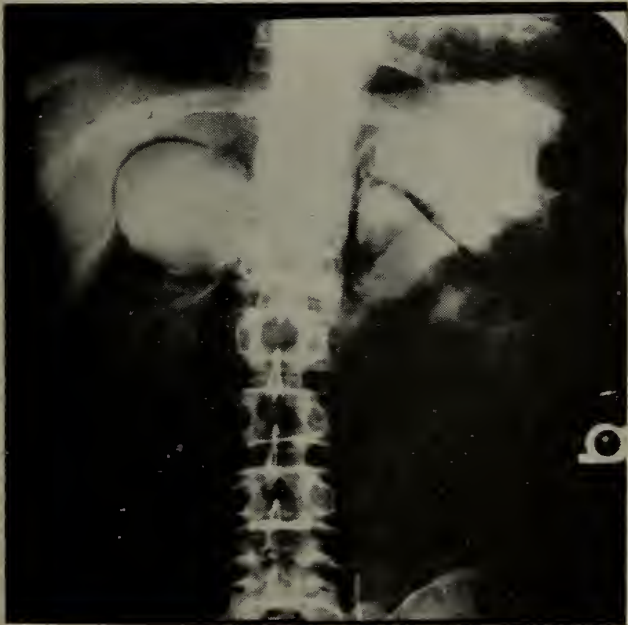
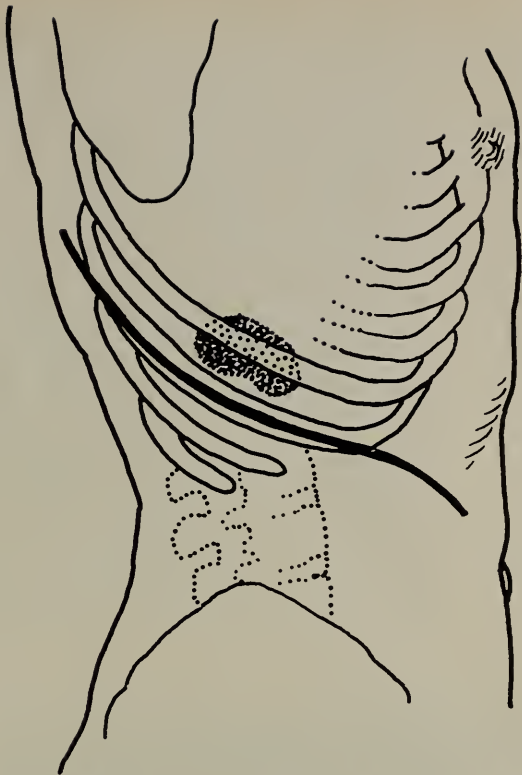


Fig. 8. Retroperitoneal pneumogram showing right adrenal tumor.

On November 11, 1961, a right adrenal-ectomy was performed through a right thoracolumbar incision (Fig. 9) with blood pressure control with regitine and nor-epinephrine. This direct surgical approach was selected for this well localized tumor and the subsequent clinical course has evidenced no additional or residual pheochromocytoma.



THORACOLUMBAR INCISION

Fig. 9

Postoperatively, gradually decreasing amounts of nor-epinephrine were necessary for forty-eight hours to maintain normal blood pressure.

During the two and a half years since operation, she has maintained a normal blood pressure and has been asymptomatic.

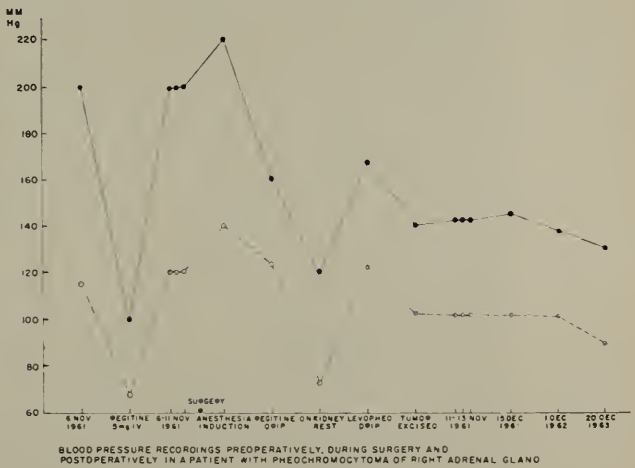


Table II

In summary, the clinical course, diagnostic evaluation and operative management of two patients with adrenal tumors who were relieved of hypertension have been presented.

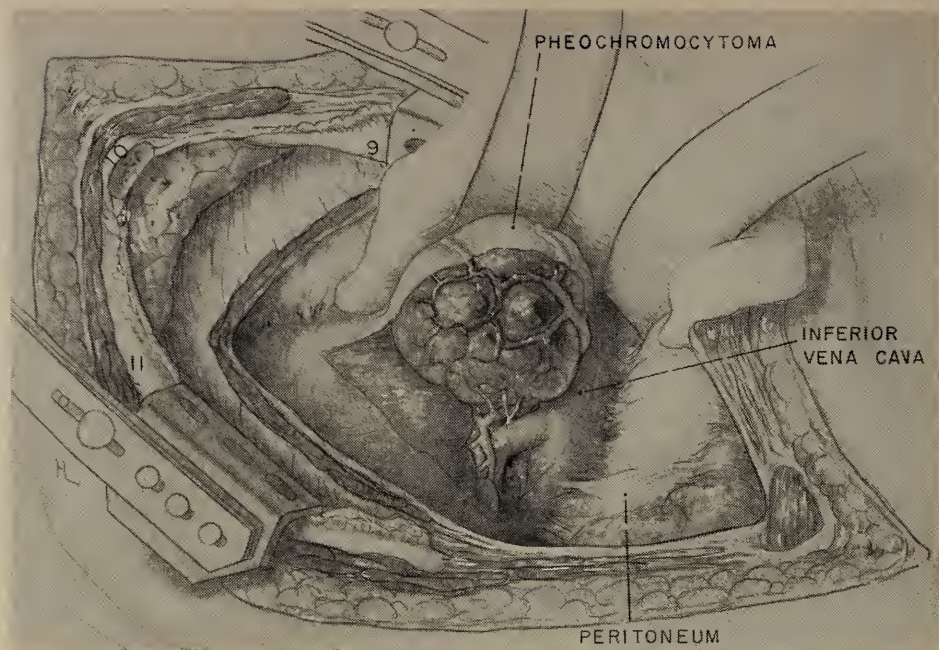


Fig. 10. Exposure of right adrenal tumor through thoracolumbal incision.

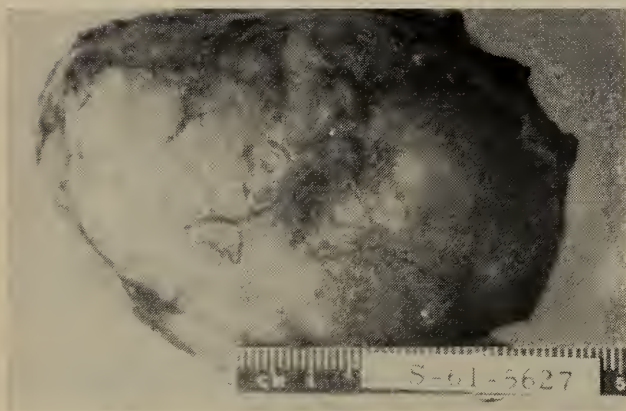


Fig. 11



Fig. 12

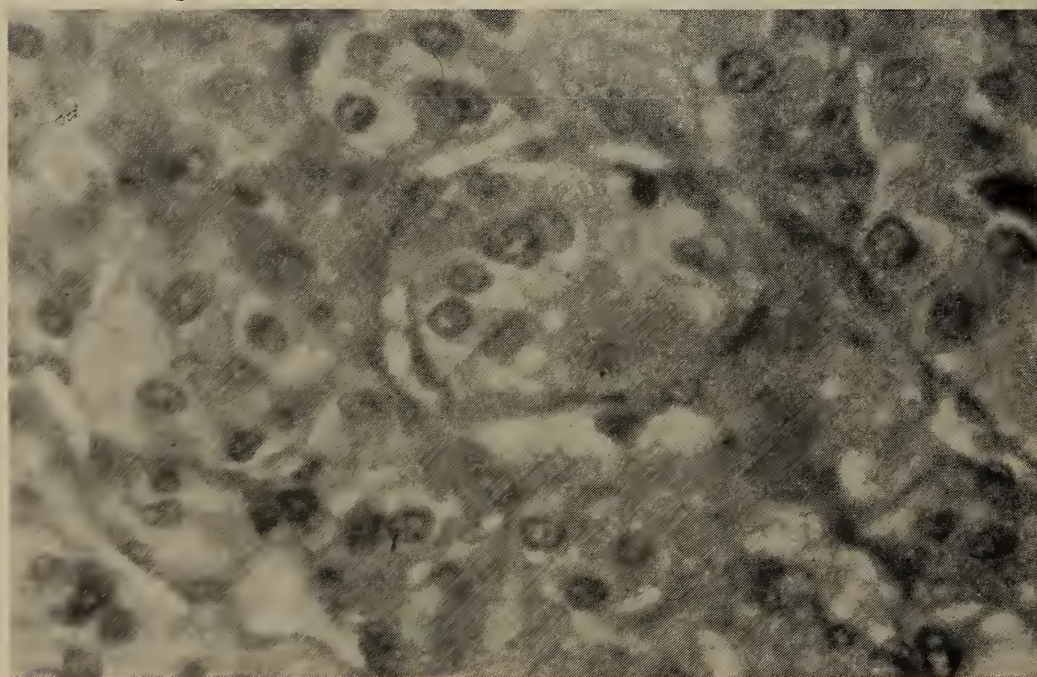


Fig. 13

Gross (Figs. 11 and 12) and microscopic (Fig. 13) of pheochromocytoma.

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Medical Tower
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Heredity in Glaucoma

A Michigan physician has reported findings which offer new evidence that glaucoma, a disease responsible for 40,000 cases of blindness in America, tends to run in families. The report, published in the February 15th *Journal of the American Medical Association*, was based on a study by John A. Cowan, M.D., of the Division of Adult Health, Michigan Department of Health.

Of 136 blood relatives of glaucoma victims, 6.6 per cent of his study group had glaucoma or borderline glaucoma. This was about three times the expected incidence of glaucoma among the general population.

As a result of his study, Dr. Cowan recommended that those patients with a family history of glaucoma should be warned to have regular eye examinations, including tonometry—measurement of the fluid pressure within the eye.

"Furthermore, if all complete physical examinations on persons over 40 years of age included tonometry, there is little doubt that a much larger proportion of glaucoma and potential glaucoma cases would be diagnosed early enough so that medical management could prevent any further vision loss." The disease is estimated to occur in two per cent of the population over 40.

"Hereditary factors in relation to glaucoma have been suspected for a long time. However, relatively few field and clinical studies have been made to determine the nature and prevalence of hereditary glaucoma. Those studies which have been made show relatively great variations in their findings."

Diverticulitis

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Surgery can improve the situation considerably in chronic diverticulitis or in extensive diverticulosis. Prior to recent years, these cities were not usually referred for operation until there was some acute complication.

THE TREATMENT OF DIVERTICULITIS of the colon has changed in recent years. It has not been so long ago that we surgeons only saw these cases when a complication had set in and an emergency operation was imminent. This usually occurred when a diverticulum would rupture and form an abscess and/or peritonitis, with fistula into the bladder or onto the abdominal wall. There was frequently so much inflammation that the bowel would become obstructed and the cecostomy or colostomy would be necessary. Fortunately, we now usually see these cases before they become complicated. If a patient has diverticulosis and there is a definite spasm of bowel with intermittent spells of pain and abdominal distention, I believe they should be operated upon before the process develops into a more chronic stage.

The cause of diverticulitis and diverticulosis is theoretical. It generally develops in persons past 35 or 40 years of age who have been chronically constipated. It is believed that there is a weakness in the muscularis layer where the blood vessels enter the

bowel, leaving a weakness which then bulges when there is constant pressure from within the lumen.

The fact remains that they are usually found in persons past 40 and are most often found in persons of sedentary nature or an individual who has a tendency toward chronic constipation.

Recently in review of 49 cases, 31 were females and 18 were males. Twenty-nine were over 60 years of age, the oldest being 88 years old and the youngest, 33 years old. All but 11 of these cases of diverticulitis had the diverticula only in the descending colon or sigmoid area. There were five patients who were under the age of 45 and two under the age of 40.

Surgery of the colon is no longer a serious condition if we adhere to the basic concepts of intestinal surgery, namely that there be no tension on the suture line, that there be adequate blood supply to both ends of the bowel and that the anastomosis is never done in the presence of obstruction. If however obstruction is present, a cecostomy, ileostomy or colostomy should be performed and the section of the involved area of the bowel removed at a later date. Similarly, if the patient develops a fistulous tract either into the urinary system or through the abdominal wall, the fecal content should be diverted by a preliminary colostomy or cecostomy and at a later date when the inflammation about the fistula has subsided, that segment of the bowel should be resected with an end to end anastomosis. The colostomy is closed either at that time or a week or ten days later.

One of the complications of diverticulosis, and not generally noted in diverticulitis, is severe gastro-intestinal hemorrhage. All of us have seen this type of bleeding, the

Read before the Eighteenth Annual Meeting of the Excelsior Surgical Club on October 2, 1964 in Milwaukee, Wisconsin.

origin having totally escaped detection. Frequently, the bleeding comes from a diverticula and the treatment of choice is resection of that area of the bowel which contains numerous diverticula. The patient may be in such poor condition, and with diverticula throughout the entire large bowel, that it is advisable to first do a colostomy and then decide on which side of the colostomy the bleeding originates. If it originates on the right or left of the colostomy, only that segment of the bowel involved has to be removed. Those patients who have been suffering from chronic diverticulitis for many years, once they have made up their minds to allow the operation, and the resection has been done, are some of the most grateful patients one can have, because they are rid of the chronic disabling abdominal pain which they have endured for years.

I would like to report on five typical cases which illustrate the different stages of this disease.

Case No. 1, R.E.B., Age 54

Complained of pain in the lower part of her abdomen associated with alternate spells of constipation and diarrhea. On pelvic examination, a definite indurated mass could be felt to the left and posterior to the uterus. It was thought to be either an ovarian tumor or diverticulitis. X-ray studies showed numerous large and small diverticula associated with spasm throughout the sigmoid area. There were also small diverticula scattered throughout the colon. Otherwise, examination was negative. Blood count and urinalysis were normal. She was placed on a low residue diet and given some antispasmodics and told to rest in the middle of the day. The pain persisted in spite of her diet and medications, so she was readmitted to the hospital in the fall of 1963. X-rays studies were repeated and they showed the same findings as before except that there was more spasm in the recto-sigmoid area. (Fig. 1) Proctoscopic examination showed a marked angulation and the scope could not

be passed more than eight inches. Because of the persistence of her symptoms, she was advised to have the involved area of the colon resected. This was done as a one-stage procedure. All of the sigmoid and part of the descending colon was resected, and the descending colon was sutured to the upper part of the rectum. She made a very satis-



Fig. 1. Showing area of spasm in sigmoid colon with numerous diverticula.

factory convalescence and was discharged in good condition. The patient has had no further symptoms since that time and seems to be doing quite well.

Case No. 2, B.D.T., present age 81

Patient was first seen in 1941 with a diagnosis of diverticulitis of the sigmoid. He complained of abdominal pain and a mass in the lower part of the abdomen in the mid-line which was quite tender. Examination otherwise was negative, except for the gastro-intestinal x-ray which showed numerous diverticula in the sigmoid and the descending colon, and an area of spasticity in the sigmoid area. His condition seemed to improve but he continued to have spells of lower abdominal pain. The gastro-in-

testinal x-ray was repeated in 1947 and it was noted by the radiologist that the patient had the most extensive diverticulitis in the lower colon that he had ever seen. Many of the diverticula were of tremendous size and they actually appeared to have diverticula extending off of the diverticula. (Fig. 2) Because of the largeness of the diverticula it was thought best not to give a barium enema for fear that one might be ruptured by this procedure. He was again advised to have the colon resected. He refused. He has been seen on two or three occasions since 1960 with bloody stools and



Fig. 2. Numerous large diverticula throughout the colon.

two spells of severe gastro-intestinal hemorrhage.

In 1960 he had a left inguinal hernia repaired and at that time digital examination of the peritoneal cavity through the incision showed these numerous diverticula and it felt as if your finger was placed in a bag of marbles. In spite of the two or three spells of gastro-intestinal bleeding, the patient steadfastly refused operation. In the last year and a half there have been no further symptoms. He has been on a very strict

diet and occasionally takes intestinal anti-septics.

Case No. 3, C.G.L., Age 59

Patient was first seen by me in October 1961. He had been taken sick in August, 1961 while on a summer camping trip. He had severe pain in the lower part of the abdomen which persisted and he was hospitalized and given a barium enema x-ray. He went into shock during this barium enema, and it was thought a diverticulum was ruptured and immediately a transverse colostomy was performed. He returned



Fig. 3. Showing barium in pelvis three months after barium enema.

home and was advised to have no further surgery until three months after the original rupture.

Another barium enema was done under low pressure in October and the left half of the colon filled readily between the rectum and the colostomy and showed numerous diverticula. Before this barium enema was given, a flat plate of his abdomen showed barium still outside of the bowel but in the peritoneal cavity. (Fig. 3) At the time of the operation, it was noted that

there was a thin layer of barium throughout the pelvis as though someone had taken an atomizer and sprayed barium over this area of the peritoneum. The involved area of the colon was resected and some of the barium which had been incapsulated in the peritoneal cavity was removed. Two weeks after the resection and the anastomosis, the colostomy was closed. The patient has made a very satisfactory and uncomplicated convalescence.

Case No. 4, D.H.B., Age 55

Patient was admitted to the hospital with distention and nausea and vomiting. He

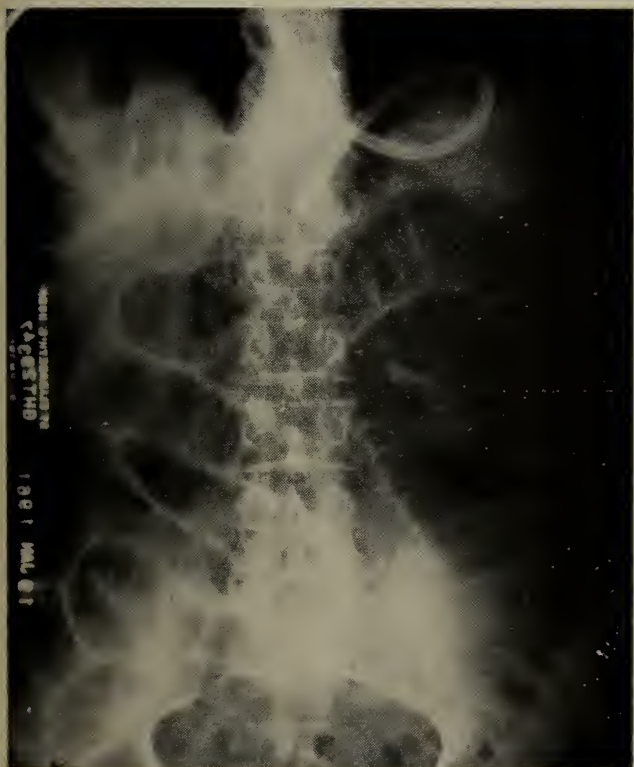


Fig. 4. Numerous distended loops of bowel are shown.

gave a history of having diverticulosis for some time which has apparently recently become inflamed. In trying to make the diagnosis he had been given a barium enema and apparently this had caused a flare-up of his diverticulitis and he developed intestinal obstruction, as you will note from this picture. (Fig. 4) His abdomen was distended. His temperature was elevated, and x-ray showed these distinct loops of large and small bowel. He was kept in the hospital

on supportive treatment with antibiotics and intravenous fluids plus nasal suction. He was operated upon twelve days after admission at which time the sigmoid and descending colon were resected. An end-to-end anastomosis was then made between the upper part of the descending colon and the upper part of the rectum. It was noted when examining the specimen that there were numerous diverticula and several abscesses in the mesentery where these diverticula had previously ruptured. He was discharged from the hospital two weeks after the operation and has had no further trouble.



Fig. 5. Many diverticula with one large diverticula in middle of descending colon.

Case No. 5, R.C.C., Age 41

Patient complained of pain in the lower part of the abdomen, mainly on the left side. He had recently had his appendix removed for similar pain on the right side. He was kept on intravenous fluids and antibiotics and given supportive treatment for five days but did not improve. It was thought that he had a pelvic abscess, so a left rectus incision was made and the pelvic

abscess was drained and the perforation of the sigmoid closed. He had a stormy convalescence and was discharged from the hospital four weeks after admission, to be readmitted in two months, at which time a barium enema showed rather large diverticula. (Fig. 5) After proper preparation, this area of the sigmoid was resected and he had an uncomplicated convalescence. He was discharged from the hospital 14 days after this last operation and had no further complaints.

These five cases illustrate different types of cases with diverticulitis. The first patient did not respond to medical treatment so fortunately was operated upon in the ideal time before obstruction or abscess or fistulous tract developed.

The second case should have been operated upon several years ago, but, being in his 81st year, he is probably too old to risk any type of operation.

The third and fourth cases were obviously acutely inflamed and should not have had a barium enema done until the inflammation had subsided. This becomes more apparent

when we consider the third case was ruptured by the barium enema with extravasation of barium throughout the peritoneal cavity.

The fourth case had a flare-up of the abscesses, with obstruction. The fifth case is very unusual in that the patient was only 41 years of age and while he had several diverticula, he had only one large diverticula which apparently had a very weak wall and ruptured spontaneously.

In conclusion, diverticulosis and diverticulitis should be considered more of a surgical condition. Operation on the chronic cases of diverticulitis or the extensive cases of diverticulosis is most satisfying, and the results are very good. Operation on a case of severe diverticulitis, with either fistula or obstruction, is frankly a life-saving procedure. We, as surgeons, should encourage the medical men to let us see these cases earlier before they develop serious complications.

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Pharmacogenetics—New Prescribing Aid?

We have known for a long time that unsuspected differences among men come to light when they are challenged by certain drugs. What the cause of these differences may be is now coming to light as a result of progress in cellular and molecular biology and physiology which has begun to reveal that these differences are really the result of hereditary variations. In consequence, a new discipline is evolving in medicine termed pharmacogenetics. It may be expected that it should help the physician in choosing the right drug and in the proper dosage for each individual and help to define more sharply the limits of safety and effectiveness of many drugs both new and old.—L. H. Nahum, M.D., in *Connecticut Medicine*, 28: 12, (Dec.) 1964.

The Changing Indications for Surgery in Thyroid Diseases

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The incidence of thyroid disease as well as the preferred treatment has changed over the past twenty-five years. This is well shown by comparing two series of cases from the same geographical area occurring 24 years apart.

THE PAST QUARTER CENTURY has seen many changes in the understanding of most diseases. Not only have methods of diagnosis and treatment changed, but in certain instances the disease process itself has altered. The remarkable decrease in gastric cancer is one example of this. The decreased incidence of hyperthyroidism is another. No logical explanation exists for either of these facts. Recently, an opportunity to study two similar series of cases from the same geographical area occurring

24 years apart afforded us a chance to investigate this alteration in thyroid pathology.

In 1937, one of us (C.C.S.)¹ reported a series of 401 thyroid operations from the Norfolk hospitals. (See Table I.) In 1961, a similar study was done at the Norfolk General Hospital² of 479 cases. (Table II.)

TABLE II
1961 SERIES

	No. Cases	% Cases
Non-Toxic Nodular Goiter-----	282	59.0
Toxic Diffuse Goiter-----	52	11.0
Adenoma of Thyroid-----	47	9.8
Thyroiditis -----	44	9.0
Malignancy -----	26	5.4
Toxic Nodular Goiter-----	19	3.9
Toxic Adenoma -----	0	
Other -----	9	
	479	

Toxic goiter was the indication for surgery in 63.1% of the earlier series and non-toxic goiter was present in only 10.2% of the cases. (Table III.) In the 1961 cases, the

TABLE I
1937 SERIES

	No. Cases	% Cases
Toxic Diffuse Goiter-----	150	37.4
Adenoma of Thyroid-----	91	22.6
Toxic Nodular Goiter-----	53	13.2
Toxic Adenoma -----	50	12.4
Non-Toxic Nodular Goiter-----	41	10.2
Thyroiditis -----	6	1.5
Malignancy -----	3	0.7
Other -----	7	
	401	

TABLE III

	1937	1961
	% of Cases	
Non-Toxic Nodular Goiter-----	10.2	59.0
Malignancy -----	0.7	5.4
Thyroiditis -----	1.5	9.0
Adenoma -----	22.6	9.8
Toxic Goiter—All Types-----	63.1	14.9

reverse was true. The chief indication for surgery was non-toxic nodular goiter (59%) and toxic thyroids were present in only 14.9% of the patients.

What are the reasons for the decline in hyperthyroidism? (Table IV.) First, our

Presented at the Annual Meeting of The Medical Society of Virginia, Norfolk, October 11-14, 1964.

TABLE IV
REASONS FOR GENERAL DECLINE IN SURGERY
FOR HYPERTHYROIDISM

1. Improved Methods of Diagnosis.
2. Use of Iodized Salt.
3. Medical Treatment with Anti-Thyroid Drugs and Radioactive Iodine.
4. Decrease in Incidence of This Disease Process.

methods of diagnosis are much improved. In the early years, the clinical picture and the basic metabolic rate were the chief diagnostic tests. Today there are more specific and accurate tests available. The widespread use of iodized salt has produced a reduction in all types of thyroid disease. This seems especially true of primary hyperthyroidism. The use of drugs to treat hyperthyroidism was introduced in 1944 (Thiouracil) and in 1952 (radioactive iodine) and accounts for a certain reduction in operations for thyrotoxicosis. Fowler³ reported that when he combined the drug treated groups to his surgical cases, he raised the percentage of thyroid admissions to only 6.9%, still much below the incidence of his earlier series. We can conclude, therefore, that an absolute decrease in the incidence of hyperthyroidism has occurred.

Why are we operating on more cases of non-toxic goiter? (Table V.) The indica-

TABLE V
INDICATIONS FOR SURGERY IN NON-TOXIC
NODULAR GOITER

1. Cosmetic.
2. Pressure on Trachea.
3. Rule Out Malignancy.

tions for surgery in non-toxic goiter are pressure on the trachea, cosmetic reasons and to rule out a diagnosis of malignancy. It is obvious that in our modern and more sophisticated society, cosmetic indications have become more important. The general decline in mortality in all surgical procedures has reassured our population so that they more readily accept purely cosmetic procedures.

In 1945, Cole⁴ reported an incidence of 17.1% of carcinoma in patients with non-

toxic goiter. Other authors followed with similar reports. This stimulated physicians to view nodular goiter in a new light and to recommend surgery in a much larger number of cases. Many patients with non-toxic nodular goiter who had neither carcinoma nor large glands nor tracheal obstruction might have avoided surgery, had we been certain preoperatively that carcinoma was not present.

Since carcinoma is known to occur rarely in toxic thyroids, any series with a low number of toxic glands would be expected to show a higher incidence of malignancy. This fact is certainly demonstrated in our two groups. In the 1937 series, malignancy was found in only three cases (0.7%) but carcinoma occurred in 26 cases (5.4%) of the 1961 group. It is also true that the more non-toxic glands removed, the more carcinomas will be found. This is especially true in the single or solitary nodular goiter. The 1961 series from the Norfolk General Hospital demonstrated how difficult it is clinically to differentiate a multinodular gland from a single nodule. Sixty-three percent of the clinically diagnosed single nodules were called multinodular goiters by the pathologist.

The increase in the reported cases of thyroiditis between the two series (six in 1937 and 44 in 1961) also reflects the difficulty in clinical diagnosis since it is often impossible to distinguish between thyroiditis and carcinoma.

The remaining difference in the two series is more difficult to explain. In the 1937 group there were 91 cases of adenoma of the thyroid gland and only 47 similar adenomas in the 1961 report. The only logical explanation is a better understanding of thyroid tumors and a better classification of such tumors.⁵ Today there is a tendency for the pathologists to reserve the diagnosis of adenoma for the true thyroid tumor and to classify many nodules as colloid or nodular goiter.

To summarize the factors in the increased

incidence of surgery for non-toxic nodular goiter and thyroid neoplasm (Table VI), we first find an absolute decrease in the incidence of toxic goiter. There also is a decrease in surgery for all thyroid diseases probably due to better selection of cases. Finally, the high incidence of carcinoma in reported series of nodular goiter induces us to operate on many more of these cases.

TABLE VI
FACTORS INVOLVED IN THE INCREASE IN SURGERY FOR
NON-TOXIC GOITERS AND THYROID NEOPLASMS

- 1. An Absolute Decrease in the Incidence of Hyperthyroidism.
- 2. An Apparent Decrease in Surgery for All Thyroid Diseases.
- 3. High Incidence of Carcinoma in Reported Series of Nodular Goiter.

Conclusion

Two series of thyroidectomies from the same community have been reviewed by the authors of each. During the 24 years that

separate the two series, there has been a great decrease in all thyroid surgery, especially in surgery for toxic thyroids. As a result of this, there has been a relative increase in surgery for non-toxic nodular goiter, carcinoma and thyroiditis.

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Direct Production of AMA Scientific Programs

A microbiologist and medical educator has joined the American Medical Association to direct the production of scientific programs for the AMA annual and clinical conventions.

He is Ira Singer, Ph.D., formerly professor of microbiology and acting chairman of the Department of Microbiology at Georgetown University Schools of Medicine and Dentistry, Washington, D.C.

Dr. Singer has the title of associate director of the Department of Postgraduate Programs for Scientific Programs. He will coordinate production of the scientific programs, and participate in other department activities.

The purpose of the scientific programs is: (1) to provide physicians who attend the

annual and clinical conventions with new information to keep them abreast of developments in medicine and (2) to provide "refresher" discussions by authorities in the various specialties, for the physician interested in furthering his postgraduate education.

Dr. Singer, 41, took his Ph.D. from the University of Chicago in 1953. He has held professional appointments at the University of Chicago; Christ Hospital Institute of Medical Research, Cincinnati, O.; the Rockefeller Institute for Medical Research, New York City, and Georgetown University. His scientific publications are principally in the fields of malariology and trypanosomiasis.

Neuro-Otologic Manifestations of Cerebellopontine Angle Tumors

JAMES PARKER CROSS, Jr., M.D.
Norfolk, Virginia

Neurilemmoma of the eighth cranial nerve occurred 141 times in a series of 182 unilateral lesions of the cerebellopontine angle. Symptoms and signs are considered.

OVER A TEN YEAR PERIOD, 182 unilateral lesions of the cerebellopontine angle presented for treatment at the Mayo Clinic. These cases were reviewed and the results presented herein. The variety of lesions is illustrated in Table 1; however, this paper will deal solely with neurilemmomas of the eighth cranial nerve with the single exception of results with Bekesy audiometry.

TABLE 1
UNILATERAL ANGLE LESIONS

Material	182 Cases	Percentages
8th C.N. Neurilemmoma	141	77.4
Meningioma	17	9.4
Epidermoid	6	3.4
Glioma	11	6.1
Hemangiopericytoma	1	.5
Chondrosarcoma	1	.5
Melanoma	1	.5
Vascular Anomaly	2	1.1
10th C.N. Neurilemmoma	1	.5
Aneurysm	1	.5

There were 51 males and 90 females. The tumor is most common in later middle-aged persons, but the youngest patient was 11 years of age, and the oldest was 75 years of

Presented at the Annual Meeting of The Medical Society of Virginia, Norfolk, October 11-14, 1964.

age. Approximately half of the tumors were on the right and half on the left sides.

Symptoms

Ninety-six per cent complained of ipsilateral hearing loss, usually gradually progressive in nature, but in four cases, it was sudden. Sixty-five per cent complained of tinnitus. Sixty-two per cent noted this hearing loss and/or tinnitus as a sole first symptom, and another 21% noted it in combination with other symptoms as a first-noted symptom complex. Other first symptoms (17%) were headache, gait disturbance, dizziness, face pain, face sensory change, and blurred vision. The time between the onset of hearing loss and/or tinnitus as a first symptom, and the next appearing symptom, varied from 1-120 months with the median being 36 months.

Dizziness of some kind was noted by 53%. This dizziness was usually described vaguely as "giddiness" or "light-headedness", etc., and true rotary vertigo was noted only in 3%. Postural influence of some kind was a factor in 50% of these dizzy patients. Seventy-two per cent complained of subjective gait disturbances.

Visional disturbances, to include blurring, diminished acuity, diplopia, multi-colored hallucinations, spots before the eyes, and episodic blindness, were noted by 55%. Facial weakness was complained of by only 10%, but facial sensory changes, usually numbness, were noted by 67%. Five per cent had face pain, of which half had a true tic douloureux picture, and half had atypical face pain. These patients who had face pain always had associated findings to alert the

clinician to a space-occupying lesion, as noted in Table 2.

TABLE 2
FINDINGS ASSOCIATED WITH FACE PAIN,
NEURILEMMOMAS

Corneal Reflex Down	63%
Caloric Response Diminished.....	100%*
5th C.N. Sensory Defect (Other).....	25%
Ataxic Gait	75%
Nystagmus	63%
Hearing Loss	94%**

* 2 not done

** only 1 without—not seen ENT

Headache was seen in 71% and it was usually ipsilateral and occipito-frontal, but was also noted in other locations. The headache was usually a late symptom.

Signs

Pure tone audiometry was accomplished in 97 patients, and tuning fork examinations in 39 more. In the vast majority of patients, 85%, the hearing loss on the affected side was complete or severe. In the group with less severe hearing loss who had audiograms, there was no set pattern or configuration noted. Recruitment was evaluated in most of the patients who still had some testable hearing in the affected ear and was found in 10%, a figure somewhat higher than noted in several previous reports. The presence of recruitment usually indicates an end organ lesion rather than a retro-cochlear one, and is defined as a condition in which certain defective ears are more sensitive to changes in intensity of sound than are normal ears and presents itself as an abnormal increase in the psycho-acoustic perception of sound.¹ "Normal" pure tone audiograms (i.e., an average decibel loss of less than 15 db. for frequencies between 250 to 4000 c.p.s.) were found in four patients.

Audiometric speech testing was done in only 22 cases where there was testable hearing remaining, and in 10 of these the speech scores were commensurate with the pure tone sensorineural loss, but in the remaining 12, there was no response to speech stimula-

tion in spite of remaining pure tone levels. It is known that retro-cochlear lesions of the eighth cranial nerve can occasion poor speech perception in spite of relatively slight pure tone reduction.²

Bekesy audiometry showed abnormal fatigue in eight operated cases, of which four were eighth cranial nerve neurilemmomas; two were astrocytomas, and one was a hemangiopericytoma which compressed the eighth nerve; and in the eighth case, a craniotomy revealed no definite angle lesion. Finding abnormal fatigue certainly makes one highly suspicious of a space-occupying lesion of the angle, but is not pathognomonic as it has been noted in other instances.

Caloric examination revealed a normal response in only 2%, with a diminished ipsilateral response in 35%, and no response in the affected ear in 63%. Radiological findings were helpful in 43%, but it is hoped that with the recent advent of Pantopaque studies of the angle³ that this percentage will increase, particularly since recent advances in microscopic otosurgery using a translabyrinthine approach have made possible removal of these tumors with very low morbidity and no mortality in 50 cases,⁴ if the lesion is found in its early stages.

Papilledema was found in 37% of the patients. Sixty-seven per cent had spontaneous nystagmus, usually horizontal on lateral gaze, frequently more coarse and slower toward the tumor side than away from it. Some patients had a rotary component in addition to their horizontal nystagmus, and 2.5% had only vertical nystagmus noted on upward gaze.

Facial weakness was found ipsilaterally in 42% and usually was of such slight degree that it was not noted by the patient. In two cases, contra-lateral weakness was noted, and in no case was complete paralysis found. Others have noted, however, the rare incidence of complete unilateral paralysis.

Ipsilateral corneal reflexes were absent in 14%, decreased in 73%, and normal in 13%. Bilateral depression was seen in 9%.

Romberg's sign was present in 45%, and an ataxic gait was present in 72%. About 4% were unable to walk.

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Sports for Girls

The American Medical Association Committee on the Medical Aspects of Sports urges greater development of sports opportunities for more girls and women in the United States. The committee expressed concern about the inadequate provision for physical activity for a large proportion of the nation's feminine population. Whether from culturally-imposed restrictions, untenable physiological taboos, or from disproportionate allotment of time, facilities, and leadership, many are not receiving the desired experiences from suitable and regular physical activity.

"The health benefits of wholesome exercise are now well substantiated, and are just as pertinent to the female as to the male. The woman who maintains a high level of health and fitness can meet family or career responsibilities more effectively, and can pursue avocational interests more enjoyable. Also, and not unimportant, participation in healthful physical recreation is now accepted, rightfully, as contributing to the fem-

inine image instead of detracting from it."

It is "imperative," that all girls be reached and involved in sports programs commensurate with their respective capacities and interests. The success of fads, shortcuts and quackery in the areas of physical fitness among girls and women indicates their "receptive but indiscriminating interests." Experiences derived from such programs fall short of the exaggerated claims made for them and do not provide the satisfaction necessary for continued activity.

Programs of sufficient breadth and depth to permit progressive involvement and continuing interests are essential. Basic to the administration of healthful and safe sports programs are proper conditioning, careful coaching, good officiating, right equipment and facilities, and adequate medical care.

The AMA committee commended the efforts of the American Association for Health, Physical Education, and Recreation in encouraging sports for women and offered its support.

Paraffinoma

Report of Two Unusual Cases

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Instillation of mineral oil into the pleural cavity following pneumonectomy resulted in paraffinoma in these cases.

PARAFFINOMAS, or oleomas, are foreign-body granulomas which sometimes develop after intentional or accidental injection or instillation of oily substances. We have recently encountered two patients with unusual paraffinomas at the University of

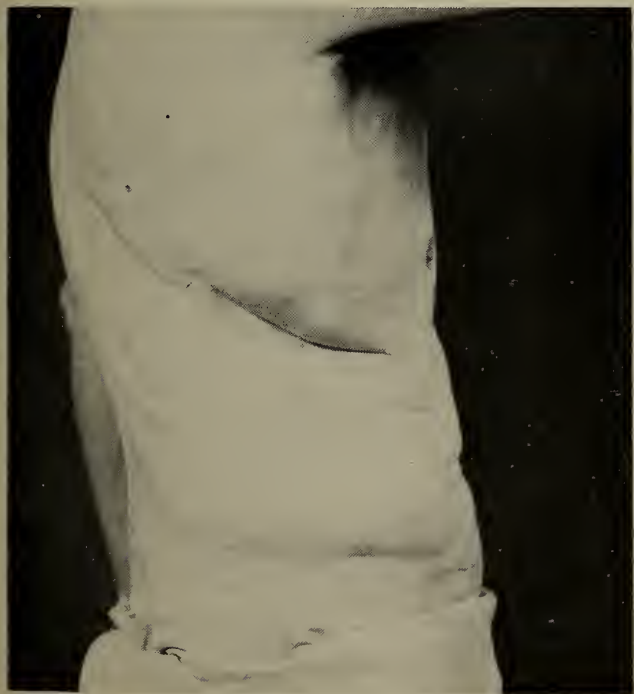


Fig. 1. A right later view showing the plaque along the upper border of the thoracotomy scar. The plaque over the right iliac crest is also visible.

Virginia Medical Center and the cases are reported briefly below.

From the Department of Dermatology and the Division of Thoracic Surgery, University of Virginia Medical Center.

Case Reports

Case 1—U. of Va. H. No. 45-76-04. A 64-year-old white male had a right pneumonectomy for epidermoid bronchogenic carcinoma. During the next 10 days a total of 2700 ml. of sterile mineral oil was instilled into the right pleural cavity. After the operation he was examined at frequent intervals and it was noted that three nodules, which increased very gradually in size, had appeared on the trunk. When the patient was seen eighteen months after the operation, there was a large, firm, non-tender plaque along the upper border of the incisional scar on the right chest wall (Fig. 1). There were similar lesions above both the right and left iliac crests (Fig. 2). While

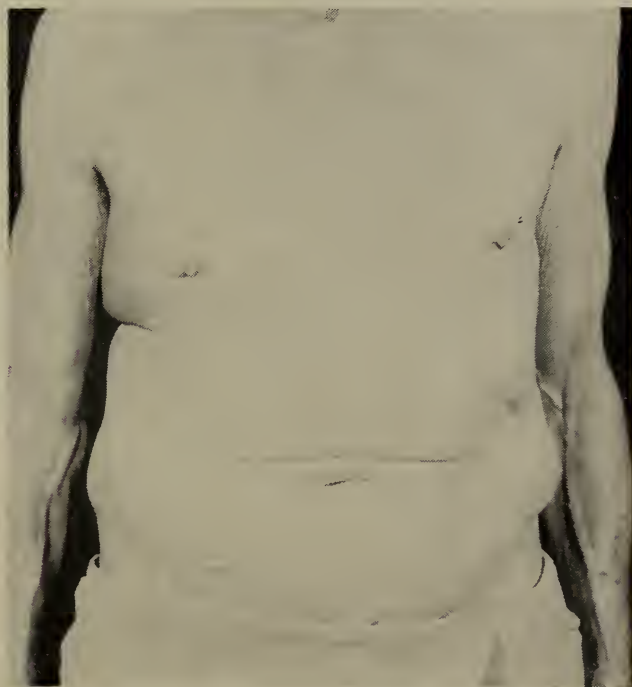


Fig. 2. An anterior view of the trunk showing the prominent plaques over both iliac crests and that adjacent to the thoracotomy scar.

removing a specimen from one of the plaques for microscopic examination, it was noted that several droplets of yellow oily

material oozed from the biopsy site. Microscopic examination showed the findings of paraffinoma.

Case 2—U. Va. H. No. 46-54-85. A 22-year-old white female had a right pneumonectomy for severe bronchiectasis. During the next two weeks 25000 ml. of sterile mineral oil was instilled into the right pleural cavity. She was examined at frequent intervals and approximately one year after the operation, several tender, firm nodules were found in the upper, outer quadrant of the right breast. Similar and smaller nodules were found on the right arm, left thigh, lower abdominal wall, and the left side of the vulva. Biopsy of the masses on the breast and on the vulva showed the finding of paraffinoma.

Comment

Both examples of paraffinoma described in this communication resulted from the transthoracic instillation of mineral oil to assist in filling the pleural cavity, and both patients developed oleomas of the skin in proximity to and at considerable distance from the site of the injection. In both instances, but particularly Case 1, the possibility of metastatic neoplasm was considered as an explanation for the bizarre cutaneous tumors and the correct diagnosis was established only after biopsy of the skin lesions.

The kind of oil injected seems to be the chief factor in determining whether or not paraffinomas will develop. It has been shown, for example, that olive oil is practically innocuous, that cotton seed oil causes an occasional tumor and that mineral oil, particularly when injected into the skin or subcutaneous tissue, causes a high percentage of oleomas. No clear-cut explanation for this difference is presently available, although it has been suggested that oily substances which are readily saponified, such as olive oil, are less likely to be troublesome.^{1,2} The tendency for the paraffinomas to develop at great distances from the site of injection, with apparent disregard for anatomical

boundaries and gravitational forces, is quite remarkable.

Over a period of many years oily substances have been employed therapeutically for the treatment of hernias and hemorrhoids, to prevent adhesions after abdominal operations, to assist in filling the pleural cavities and in a number of cosmetic procedures.³⁻⁹ In addition, the development of oleomas at the site of accidental injection of oily substances, or the injection of oil into the skin to produce disfiguring oleomas as a punishment for infringement on the rights of primitive peoples, have been reported.^{10,11} Histologically these tumors show various sized collections of oil in the dermis, the appearance of which has been compared to "Swiss cheese". These loculations of oil are surrounded by an infiltrate composed largely of lymphocytes and plasma cells. In addition, there are lipid filled histiocytes which have a foamy appearance and variable numbers of foreign-body giant cells.¹² Sarcomas arising in paraffinomas have been encountered on several occasions.¹³

Summary

Two unusual examples of multiple paraffinomas, or oleomas, are reported.

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Exercise

"Exercise is one of the important factors contributing to total fitness," says a new pamphlet of the American Medical Association. To assist you in planning a program of regular exercise, the AMA offers a number of suggestions.

An exercise program should be started at an early age and continued throughout life, with certain adjustments from time to time as life advances and needs, interests and capabilities change. The amount of vigorous exercise that is desirable each day is largely an individual matter, with recommendations ranging from 30 minutes to an hour each day as a minimum.

Something of interest for every individual can be found to make exercise satisfying and enjoyable. In addition to many sports, the variety of choices includes daily habits such as walking and gardening. Hard, fast, sustained or highly competitive games and sports should not be played by persons of any age unless they have attained an appropriate state of fitness through regular training. All persons should be found by medical examination to be organically sound before training for competition or other strenuous exercise.

If you're out of training, don't try to keep pace in any vigorous sport with an individual who is properly conditioned through regular training. Being in condition for one sport doesn't necessarily mean you're in condition for another. If you've been long out of training, you will need a period of gradual conditioning to get back to strenuous activity.

How can you tell whether your exercise program is too strenuous? If breathlessness and pounding of the heart don't subside within 10 minutes after exercise, if marked weakness or fatigue persists two hours later, if you're still fatigued the next day, then you have overdone it.

Contributions of exercise to fitness include a sense of well-being, and development and maintenance of strength, speed, agility, endurance and skill. Each individual differs in his capacity to enjoy and benefit from exercise.

Calabar Swelling in Virginia

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A case of loiasis, diagnosed in Virginia, is reported. A second case is mentioned. Exotic diseases will probably be seen in this country with increasing frequency.

“**L**OJA-LOJA,” known as the eye-worm, is a tissue nematode parasitic to man and endemic in the Congo basin—Southern Nigeria area of Africa (Calabar Valley). The first African case was described in Angola by Guyot^{1,2} in 1777 and cases of loiasis have been described outside Africa since that time.³⁻⁷ However, most patients acquired the disease while in Africa. The increased exchange of persons in recent years for educational and professional reasons has led to the more common observation of exotic infection in areas of the world where heretofore they had never or rarely been observed. United States citizens are frequent visitors or tourists to other areas of the globe and travel has increased in recent years due to improved transportation facilities. An illustration of these facts is given by the following case.

Report of a Case

A 53-year-old white male foreign missions worker was admitted to the Medical College of Virginia Hospital on July 8, 1962, because of migratory subcutaneous swellings of two months' duration. In May, 1962, while in Europe he noted a slightly reddened, non-tender swelling “about the

size of hen's egg” on the posterior aspect of the left thigh. This disappeared spontaneously in about one week but was soon followed by a similar swelling in the lower rib margin, unaccompanied by any systemic disease symptoms. Later, swelling of a similar nature and course appeared on the left arm, left calf, ankle and back to the thigh. Prior to his trip to Europe he had been on a tour of Africa which included Nigeria, Southern Rhodesia, Tanganyika and later to Egypt, Israel and Jordan. Other than a documented case of amoebic dysentery in 1960 and occasional episodes of frequent stools, the patient had been in good health. Because of the nature of the migratory swelling he reported to his physician on return to this country. A white blood cell count showed 22,000 cells with 55% eosinophiles and the patient was referred to the hospital.

Physical examination revealed a well developed, slightly obese white male in no acute distress. The temperature was 99.0°F, pulse 80 per minute, and blood pressure 120/70. Positive physical findings were limited to the eyes, prostate and lower extremities. There was slight narrowing of the retinal arterioles and a firm enlarged prostate. There was a discrete swelling of the medial aspect of the left thigh with no redness, hyperthermia, tenderness or pitting of this area. The day following admission a firm subcutaneous swelling appeared on the right arm which was slightly erythematous, warm and tender and measured approximately 6-7 cm in diameter. This subsided gradually over a 3-4 day period.

Laboratory data—The only positive laboratory finding on admission was a white blood count of 14,200 with 21% polymor-

phonuclear leukocytes, 59% eosinophiles, 18% lymphocytes and 2% monocytes. Other tests done which were normal included a hemoglobin, urinalysis, fasting blood sugar, transaminase, L.E. prep and total protein determinations. Routine agglutination tests showed fairly high titers for typhoid and paratyphoid but the patient had had recent immunizations for these. Stool examination both direct and after sedimentation and floatation methods showed no ova or parasites. No microfilaria or parasites were seen in thin, thick and concentrated blood smears taken on three separate days. X-rays of the thigh and chest were normal as was the electrocardiogram. Skin tests with tuberculin and the fungi were negative except for a 3+ histoplasmin reaction.

Serum from the patient was then sent to the USPH Communicable Disease Center and to the Department of Tropical Medicine and Public Health of Tulane University for serological testing. Results showed hemagglutination in a titer of 1:1600, flocculation in a titer of 1:20 with a non-specific filarial antigen. There was *Complement fixation* with a dirofilaria antigen strongly positive in dilutions of 1:160-1:640. Without waiting for these serological results and despite the negative examination for microfilaria in the blood, the patient was started on Hetrazan (diethylcarbamazine) 50 mgms q.i.d. and discharged from the hospital July 16, 1962.

During the first seven days following discharge the patient received Hetrazan in increasing dosage. Approximately one month later the patient developed signs of Hetrazan toxicity manifested by myalgia, accompanied by temperature elevation to 101° and pleuritic pain. A chest x-ray was negative, the Hetrazan discontinued and antihistamines were given. Later Hetrazan was resumed with antihistamines with no further evidence of either toxic reactions or "Calabar swelling".

Comment

The diagnosis of loiasis was made on clinical grounds supported by the laboratory report of 50% eosinophilia and positive serological tests thus fulfilling the criteria established by Gordon et al.⁸ If microfilaria or adult "Loa loa" are not found, the minimal diagnostic criteria acceptable in investigational use should be: (a) A recent indisputable history of Calabar swellings; (b) an otherwise unexplained eosinophilia of more than 10% in a non-leukopenic subject and (c) immunological evidence of filarial infection as shown by intradermal or complement fixation tests. The absence of microfilaria is probably explainable in one case on the basis of the infection being recent in origin (maximum 8 mos.). Gordon further states that development of a filaria to the adult stage takes about 12 months. Lypholized whole worm antigen from *Dirofilaria immitis* was obtained from Dr. R. C. Jung from Tulane for the purpose of performing a skin test. This test was markedly positive in 24 hours.

An objection to the diagnosis of Loiasis in our case might be raised by some in the absence of microfilaria, in that it is possible that our patient could have had the parasite "Acanthocheilonema (Dipetalonema) Perstans" instead of "Loa loa" as has been noted by Adolph, Kagan and McQuay.⁹ Although there are grounds for objection, we feel that the large (hen egg sized) Calabar swellings, absence of joint and serous cavity pains, urological and psychiatric symptoms, and exhaustion or itching, make the diagnosis of Loiasis very probable.

Summary

A case of "Loa loa" infection with typical Calabar swellings in a foreign mission worker is reported. An explanation⁸ for diagnosis in the absence of microfilaria or adult worms is given. In all probability a greater number of exotic parasitic infections will be observed in this country in the years to come.

Addendum: On the day this patient was

admitted to the hospital, we received a report from Dr. Olan H. Alvig of McLean, Virginia, who observed a young lady who had returned from Africa after living there over one year. Over a six months' period she complained of transient painful swellings in the skin lasting 24-36 hours. One night she had severe eye pain and a long white worm was noted crawling across the conjunctiva. Since then she was admitted to Bethesda Naval Hospital.

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Seasonal Changes in Gland Activity

The cortex of the adrenal gland appears to be more active in cold weather than in other seasons, a Japanese investigator reports. Gen-Ichi Watanabe, M.D., University of Niigata School of Medicine, Niigata, Japan, studied adrenal cortex activity among a small group of men and women in Niigata City where quite severe hot weather immediately follows long cool seasons. It appears that the adrenal cortex is most active during winter and is also active in hot weather but functions less in the mild seasons of spring and fall, Dr. Watanabe concluded from his study reported in the August Archives of Environmental Health, published by the American Medical Association.

It seems that either cold or hot climates may be stressful for man, and it is reasonable

to assume seasonal physiologic changes although supporting evidence so far has been imperfect.

Due to the sudden temperature changes in Niigata City, there is insufficient time for acclimatization. Under these circumstances, climatic stresses, both hot and cold, may well activate the adrenal cortex. The adrenal cortex secretes hormones which play a significant role in the body's defense against infections and other threats. Dr. Watanabe said his findings might help explain the varying incidence of certain diseases at different times of the year.

Activity of the adrenal cortex was determined in more than 10 men and 10 women by three tests performed at monthly intervals over a period of more than a year.

Diagnostic Laboratory Medicine

Endocarditis

Some reports in the literature have recorded a decrease in the incidence of bacterial endocarditis since the event of antibiotics. Other reports seem to indicate there is an increase in the number of cases of this disease, but certainly a reduction in the mortality. Most comparative studies of this nature tend to point up several differences in this disease before and after the event of antibiotics. First there has been a change in the etiologic flora with a shift to non-streptococcal organisms. Due to the change in the etiology there has been an apparent increase in embolic phenomena. These non-streptococcal agents have a tendency to attack apparently healthy valves. On the other hand there appears to be a decrease in mitral valve involvement as well as a reduction of underlying rheumatic damage. It would appear that cardiac surgery is responsible for some of the increase in cases as the repair of one defect often leads to another abnormality possibly at the site of a suture or prosthesis.

While at times this disease may be mild, it is more often of a very serious nature with mortality rates around 60% for the acute form to 30% for the subacute form. One recent series had a mortality of 96% for 54 patients with the acute form. One possible reason for this high mortality is the fact that in many series a delay, of three to five months in adults, two months in children, has occurred before the correct diagnosis is made and treatment begun. This delay is responsible for the heart failure, valve rupture, aneurysm embolization and renal impairment associated with the condition.

The single most important laboratory procedure useful in diagnosis is the blood culture. Cultures may be taken irrespective of the patient's temperature pattern as bacteremia is usually a constant feature, al-

though the highest counts precede a rise of temperature. Still it should be remembered that about 10% of the cases of bacterial endocarditis prove to be bacteriologically negative. Confirmation should be sought by repetition of the cultures and unusual organisms can be checked as the possible causative agent by agglutinating them with the patient's own sera and measuring the antibody level.

Sensitivity studies determined by inhibition tests, either disc or tube, tend to be misleading when bactericidal drugs are needed, as in the treatment of this disease. The use of antibiotics which sterilize the lesion must be used since those which are merely bacteriostatic will only be effective as long as administration is continued. The role of the host in recovery from this disease should not be too heavily relied upon. The most direct evaluation of the organism's antibiotic sensitivity is by the disc method which allows simultaneous testing against a relatively large number of antibiotics and if the organism proves relatively sensitive to an antibiotic by this method, it proves quite adequate for initiating therapy. If the organism is resistant by the disc method or if after 72 hours no clinical response is evident, it might be necessary to reevaluate the sensitivities by a tube method. While clinicians have relied heavily on tube values to calculate their dose levels of antibiotics, in practice these are often misleading for it must be emphasized that either the tube or the disc method are only in vitro tests. In practice treatment can be given with greater confidence if supported by subsequent demonstration that the patient's serum is bactericidal for his infecting organism at a dilution of at least 1:4.

When drugs other than penicillin are used and response seems poor, it might be useful for the laboratory to test for the bactericidal

action of the antibiotic. This is not necessary in most cases treated with penicillin as the bacteriostatic and bactericidal levels are very close.

In spite of careful treatment expected control is not always achieved. Then it is useful to consider some of the following factors:

1. The original culture might be made up of different strains of the same organisms having different sensitivities.
2. Multiple organisms may be present in the disease.
3. The original bacterial sensitivity may have altered its pattern and may have developed resistance. Thus all new positive cultures should have sensitivity studies to control this problem.
4. A new organism may have entered to complicate the infection.
5. Certain antibiotics in vivo may not live up to their in vitro expectations. Serum levels are useful for this reason.
6. Certain metabolic characteristics of the bacteria may interfere with cure.
7. A persisting extra cardiac focus of

infection may reseed the cardiac lesion.

8. Inadequate dosage of antibiotic may be used.
9. Length of treatment may be inadequate.
10. Crippling damage may have been present prior to the beginning of therapy.

A word might be said concerning the 10% of the cases that are bacteriologically negative. Occasionally special cultural techniques prove fruitful and in some cases even chick embryo techniques have been tried. In general these are quite unproductive. One rare form among this group is rickettsial endocarditis which may be diagnosed by the use of complement fixation. For the treatment of these bacteriological negative cases the assumption is that one is dealing with a resistant organism and hence one should begin by using high levels of penicillin and streptomycin.

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Correction.

In the April issue of the Monthly, under the Department of Diagnostic Laboratory Medicine, page 187, the table at the beginning of the page should read as follows:

	Cardiolipin Flocculation Test		Treponema C.F. Test
	Sp. Fluid	Blood	
Total Number -----	389	11,447	82
Reactive % -----	1.5	4.8	28
Weakly Reactive % -----	0.2	1.6	12
Non-reactive % -----	98.3	93.6	37
Anticomplement % -----			5

Recent Developments in Industrial Hygiene

Occupational disease control is a growing problem in Virginia. In this era of rapidly changing industrial technology, each year hundreds of new industrial methods and materials are introduced. Also, there is a tendency to utilize more potent chemicals, many of which are potentially hazardous to health in very low concentrations.

The Bureau of Industrial Hygiene of the State Health Department renders assistance in controlling environmental work hazards by making evaluations of the working environment and recommending corrections where needed. Such occupational health hazards may involve exposures to dusts, fumes, mists, gases, vapors, radiations, and adverse physical conditions such as excessive heat and noise. A variety of field and laboratory instruments and techniques are used to measure these exposures. Specialized engineering skills, such as process ventilation design and radiation shielding design, are used to eliminate over-exposure.

Today's advancing technology has introduced the following additional problems:

New materials, some of them unknown 15 years ago;

New processes of automation;

Wider use of potentially harmful substances, such as the various pesticides; and

Entirely different environmental conditions, such as the sealed or closed environment.

New Materials

In the field of new materials, two examples may illustrate the type of problem that must be solved.

MACK I. SHANHOLTZ, M.D.

State Health Commissioner of Virginia

Urethan foams contain a polymerization agent. It is toxic under normal manufacturing conditions and will sensitize virtually anyone after sufficient exposure. In extreme cases workers cannot even be in the same area with products in which the agent (TDI) has been used. Where TDI is used in manufacturing foam, exhaust systems plus respirators are used to protect the workers in the specific areas of mixing, pouring and aging the foam. A second example is the substitution of epoxy resin for lead in car body repair work. Lead poisoning was a constant hazard when using body solder, but with its elimination, this danger disappeared. However, epoxy resins necessitate the use of accelerators to speed their setting, and, if not handled with extreme caution they can cause dermatitis. In most instances during use, gloves are worn and all mixings and applications are done with a spatula.

Automation

New processes of automation have both solved problems and created new ones in the field of industrial hygiene. On the positive side, automation has produced a comparatively static workplace which can be evaluated for work hazards simply and with greater accuracy than a more variable workplace. For example, a sample taken of dust, fumes, or noise will be representative of a man's exposure for the total work day. However, accidents caused by monotony-induced carelessness and psychosomatic reactions to repetitive work duties are making their appearance.

Substances in Wider Use

The problems caused by the wider use of familiar substances is sharply illustrated by

the extensive use of more powerful insecticides. One class of these substances is similar in physiological response to the nerve-gases. The materials can be absorbed through the skin as well as by the more obvious means of inhalation and ingestion. The amount taken in will materially affect the cholinesterase activity in the blood. Prompt treatment is important.

Insecticides are most widely used in rural areas, often at a distance from a clinical laboratory. To fill the need for a quick and efficient method for determining the degree of cholinesterase inhibition, a simple test has been devised. It is available in a kit smaller than a package of cigarettes and so simple it may be self-administered. A specimen of blood from a finger prick is collected in a marked capillary tube and added to a chemical solution containing a color indicator in a vial. Within five to ten minutes after incubation under the armpit or under the waist band of the trousers a color ranging from yellow through green into blue indicates the absence or degree of cholinesterase inhibition.

Closed Work Environments

The basic question regarding occupational hazards within a closed work environment (other than psychological) is how to prevent contaminants from entering the system. Once contaminants are in the recycling air, they are difficult to remove. Also, other questions concern what contaminants can be removed as they are produced, which ones

become additive, to what level they can be allowed, and what detection and monitoring devices are available.

Studies are now being conducted of the completely closed environmental system. Already they have contributed knowledge which has necessitated a closer look at the limiting values and hazardous materials surrounding men in such an environment. For example, much more stringent restrictions have been established to safeguard against atmospheric contamination.

The Bureau of Industrial Hygiene is co-operating with other health agencies, State and local, as well as other State and Federal agencies and professional groups in occupational health projects that will improve the safety of the worker exposed to new health hazards resulting from advances in industrial technology.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Mar. 1965	Mar. 1964	Jan.- Mar. 1965	Jan.- Mar. 1964
Brucellosis	0	1	1	2
Diphtheria	0	0	0	0
Hepatitis	101	60	209	172
Measles	828	2072	2115	3570
Meningococcal Meningitis	6	4	23	12
Meningitis (Aseptic)	2	0	4	4
Poliomyelitis	0	0	0	0
Rabies (in animals)	54	41	157	132
Rocky Mt. Spotted Fever	0	0	1	0
Streptococcal Infections	1483	1273	3958	4022
Tularemia	0	0	3	3
Typhoid Fever	0	2	2	4

Children's Emotional Disturbance in General Practice

For the purpose of establishing some order I will give this survey some chronological coherence and discuss the symptoms of referral most commonly seen by the child's age group. I will also indicate the most frequently encountered relationship disorders brought to light by these symptoms and this in turn will lead to a strategy for its treatment.

(1) Not usually referred to a psychiatrist is the colicky baby. Although I will gladly concede that there are constitutionally "spastic" people and infants, I wish more people were aware of the orally centered anxiety both at the root of and amplified by the so-called "colicky" infant. A child that cries and cannot quietly take its long siesta after each meal is frequently nursed in anxiety—by an anxious mother with all thumbs. In turn, his announcement of non-comfort accuses the mother of bungling and she rejects the infant that rejects her. Feeding becomes an agony, anticipating screwed up faces, violent screaming and sleepless fathers, who will disapprovingly look at their wives and say "can't you do something about it?" The outcome is often endless experimenting with formulas and overemphasis of the feeding process. The physician is usually drawn into this preoccupation by the mother's request for his help: help with finding a winning combination.

I feel that the mother needs help with her confidence in mothering. She is frequently a brand new mother, or one overrun by too many other children or problems. She needs firm instruction about time and isolation

HANS S. STROO, M.D.

for feeding and playing with baby. She needs to enjoy the child instead of dreading it. Maybe she needs a tranquilizer and/or some airing of her rejection. The brand new father may need to be told that he better accept sharing the attention or offer some relief to his harrassed wife.

(2) The 2½ year old child is commonly referred for temper tantrums and disobedience. I find it frequently a girl. The mother is overwhelmed with concern over "not raising the child right." The word "right" is used repeatedly and we have a compulsive, perfectionistic mother who wants to achieve, drives her husband, has too many rules and feels that maybe she is too strict and mean. The husband has often some hidden rebellions—although he has married his wife out of his own passivity, trusting that she would provide the managerial talent he himself lacks, he now is ripe for some revolt and will encourage the child against the mother. He will show a fleeting smile to reward "sass"; ignore mother's signaled desire for support, he will undermine consistency by proclaiming arbitrary privileges. His wife becomes ambivalent, swings between states of stubborn righteousness (or even vindictiveness) and desperate abandon. The child usually is excitable, a poor sleeper, hyperactive, accident prone, argumentative and a great horse trader.

Therapeutic interference needs to recognize the basic passivity of the father and the compulsivity of mother, as well as the deadlock struggle of mother and child. I recommend separation (nursery school), some arbitration about rules (which father is sworn to uphold) and mother is usually in sufficient anxiety to be receptive of discussion and mitigation of her compulsive defenses ruling her self-defensive hostility. One has to watch out for the moment she

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Approved for publication by Commissioner, Department Mental Hygiene and Hospitals.

says in self-incrimination: "O.K., it is all my fault." She can only learn to love her child if one avoids the issue of "who is right—mother or child." They are hard, prolonged struggles.

The mother can now be treated for what later on may become a severe depression. In a way, the child has pointed the way to the psychiatrist for a mother who now can be treated preventively for an involuntal melancholia.

(3) The next large group is the five to six year old "immature" child. The symptom is infantile kindergarten or first grade behavior and your differential diagnosis is: (a) mental retardation (b) mild organic brain syndrome (c) infantilization (d) childhood schizophrenia.

(a) Assuming that we would have recognized the clear cut mental retarded child before, we have now the child whose parents have alibied his slowness, who functions at a better than 70 I.Q. but who stands out when placed in a competitive group. Speech problems, bedwetting, inaccurate dressing, poor comprehension of rules and routines are now listed. Parents give alibi's, point out things the child can do well, or they protect the child from other children and compound the trouble. They may reject the diagnosis. Documentation by a psychologist is mandatory.

Treatment is, as in all handicapped children, geared toward attaining maximal functioning. We are here dealing with a vast group (20%) of educable retarded and "borderline" children. They need a wise scholastic program.

It is necessary for the parents to appraise the child's abilities objectively—they need help through a local "association," and by being persuaded to see the possibilities as well as the handicaps. The child needs to be encouraged to learn, protected against discouragement from too early a placement in a first grade competition.

(b) Suspect the organic syndrome if there is "scatter". Some things the child

does are real "smart" in contrast to unfathomable retardation in other areas. Causes are hard to find in the history. A bright looking child who is distractible, hyperactive, who has poor spacial orientation or poor motor coordination, mixed or delayed dominance, speech problems in the aphasic group, poor symbol abstraction and visual motor coordination. We are now using dexedrine—tranquilizer combinations, dilantin or phenobarbital to increase the learning and socializing ability of these patients.

(c) The infantilized child is hard to diagnose without psychological testing. The parents are frequently elderly, or doting foster- or grandmothers. The children often are last or only children. They are kept out of competition, compensated with material gifts and discouraged from ventures with threats. Frequently it pays to transfer the mothering need to some interest outside the family. After all, a sense of usefulness is required to prevent mother from dreading an "end of the line".

(d) The young schizophrenic child is not "delusional". One should keep in mind that the primary schizophrenic symptom is withdrawal from affectionate relationships. The child that looks right past you on entering the office, seems unaware of your frightening or comforting presence, comes and goes without concern for your implicit or explicit wishes, should be suspected, especially when some of his behavior does not mark him as severely "retarded".

(4) A number of school phobic children in the early primary grades come to our attention. The usual precipitant is illness. The child is taken for examination so some mysterious after-effect of the "flu" can be found. No appetite for breakfast, nausea and vomiting, desperate crying with often a paucity of tears round out the syndrome; the child usually is "good," neat and inconspicuous until now. Sometimes a death in the family, or serious illness has preceded and was more of a loss to mother than to

the child. The problem is to convince the mother that no bad ogre is taking her child away from her and to reconcile her to the fact that "if you raise your children well, they leave you, if poorly they stay home and haunt you."

It is not at all easy to bring about symptomatic improvement. It takes insistence, manipulation of the transportation medium (father, relative, outsider) and awareness that mother will go on trying to find someone who recommends a homebound teacher. To achieve more than symptomatic improvement is nigh impossible. It requires continued psychotherapy with mother and child, and symptomatic improvement usually discontinues treatment.

(5) The previous syndrome isn't really a psychiatric "phobic" syndrome. It is an anxiety syndrome as is the next one, a classical syndrome met usually in boys 7 to 10 who steal, set fires, lie and wet the bed. Underlying is a castration fear, there is unresolved edipal conflict, and while the stealing and fire setting are compensatory symptoms, the bedwetting is in part retaliatory as is the sometimes connected cruelty to pets (cats). In part it is also a rediscovery of the phallus, complete with some exhibitionism. We may find a seductive mother who has kept warm with her son in bed while daddy travels—the bedwetting usually stops that. More often I see a mother who has a low regard for men, the father may have disqualified himself early in the boy's life by an inconsiderate death or an equally inconsiderate extramarital affair. We see the son identified with his undesired-and-sorely missed-father. There is quite a bit of variation in the family constellation. The boy needs acceptance and identification with a man, mother needs to be disengaged. A "big brother," Scouts, Y.M.C.A. and if available, psychotherapy are recommended.

If a father is physically available, his help is invaluable—if mother will let him near the son. If not, as is often the case, she may even be reluctant to let another (after all:

untrusted) man into her son's life. She thus needs to be helped to allow this. In my experience, once the relationship to the son becomes clear and she detaches herself to some degree, she remarries, for better or for worse.

(6) Next group of referrals comes through the schools again. The non-achiever is recognized in the early grades, he becomes anxiety provoking at 9 or 10 years of age. "Reading retardation" is the most common symptom, twice as many boys as girls are found with the problem, and more boys are referred, because non-achieving boys are more threatening. Many of these children have specific handicaps. Mixed dominance, poor visual motor coordination, poor auditory discrimination can be enough to explain all. Yet, more often, we deal with passive children who are brought in by a domineering, ambitious mother. The child has learned to rebel by cutting mother's ambition short.

This is why so many tutorial attempts fail. If a child has learned to resist mother's pressure, it can certainly hold off a tutor's pushups. We can only help in a remedial program that treats learning as a secondary delight while we encourage the child's aggressivity. Ideally we have remedial teaching with ample "play therapy", available only in imaginative communities.

About 6% of the children repeating classes are thought to belong in this group. The physician will do well to know the remedial programs in his local school system so he can recommend wisely, remembering that in this type of learning particularly a personal element enters that can frustrate any technically perfect effort.

(7) Girls escape scrutiny for the longest time by complying. More girls are successfully compulsive, neat and nasty sweet. The bomb bursts when they have collected enough rigid information to argue with the parental routine. This usually happens around puberty. We now are told that the girl has suddenly become disobedient. It

seems very timely to blame it on the ovaries—as we are dealing with people who defend against their own feelings by compulsive ritualizing; the capacity of “sexual love” is a real culprit both to parent and child.

Evidently we will have a double-barreled therapeutic problem. Not only are we being called upon to arbitrate a fight between accomplished legal minds, we also have to try to help a person discover that feelings other than hostility are manageable, even by means other than rigidity and rationalizing. It is impossible to treat either daughter or mother alone, since these patients are usually so partisan that they'll quote their therapist or counsellor right out of his job. Combined interviews help to keep the record straight, even though the daughter needs individual help to learn to identify with another type

female and mother usually does better with added support for her good intentions.

In the foregoing I have mentioned the most commonly encountered specific relationship disorders. Where not mentioned, the father is none the less important because he can neutralize conflicts, provide intermissions and “be a person” during his episodic concerns with the household.

A skeptical look into the household routine is rarely superfluous. We cannot assume that neurotic family relationships go together with well organized housekeeping. Children going to bed at unheard of hours, meals improvised out of ice boxes and drive-in restaurants are readily provoking conflict in a family all too ready to be provoked. The physician is in an ideal spot to correct such nonsense.

A New Oral Penicillin

The American Medical Association's Council on Drugs has issued a preliminary report on a new oral penicillin, ampicillin. The drug, described in the March 15th Journal of the American Medical Association, was reported to be more effective against certain bacteria than some previous types of penicillin.

Ampicillin is useful in fighting infections of the lower respiratory tract and middle ear caused by *Hemophilus influenzae*, sometimes suffered by children. It also may be used in treating infections of the urinary tract, although other antibiotics are equally effective.

Ampicillin supplements penicillin G, an antibiotic which has wide application. The new drug may be absorbed more readily by

the body in some cases. Both drugs are effective against several forms of gram-negative bacteria.

An advantage of oral penicillins, such as ampicillin, is that it can be administered to children by parents, on the advice of a physician.

The Council on Drugs cautioned, however, that ampicillin is not a substitute for other widely used antibiotics. Such usage might increase resistant strains of the bacteria it is designed to kill.

The Council's preliminary report is an initial assessment of the new drug, based on available evidence. It does not necessarily represent the final opinion of the Council on Drugs, nor does it imply approval, endorsement, or acceptance of the drug.

Current Currents

MEDICARE: Now that Medicare (H. R. 6675) has passed the House by 313-115, the battle scene shifts to the Senate. By the time this issue of Current Currents is delivered, the bill will probably be in the middle of hearings conducted by the Senate Finance Committee. Senator Byrd has stated that his Committee will hold public hearings, and this is the best news that medicine has had for some time. The hearings held by the House Ways and Means Committee were closed.

AMA ANNUAL MEETING: The largest annual meeting in the history of the American Medical Association will be held in New York from June 20-24. An attendance of 69,500, including 25,000 physicians, is expected. The record attendance to date was set in 1961—also in New York—when a total of 46,679 registered.

In addition to an outstanding scientific program, which will have something for everyone, there will be 350 exhibits on display in the New York Coliseum. An extensive motion picture and television program will also be presented.

The AMA House of Delegates will hold all important policy-making sessions in its headquarters at the Americana.

WORDS TO REMEMBER: We are indebted to Dr. Charles Young, Jr., for calling our attention to the following quotation from the late Winston Churchill: "I do not believe in the capacity of the State to plan and enforce an active, high-grade economic productivity upon its members or subjects. No matter how numerous are the committees they set up, or the ever-growing hordes of officials they employ, or the severity of the punishments they inflict or threaten, they cannot approach the high level of internal economic production which, under free enterprise, personal initiative, competitive selection, the profit motive corrected by failure, and the infinite processes of good house-keeping and personal ingenuity, constitutes the life of free society."

LOAN PROGRAM: The AMA-ERF Loan Guarantee Program experienced its second successive year of increased loan activity in 1964. The number of loans made by the three participating banks totalled 7,415, an increase of 13% from the 6,553 granted in 1963.

From March, 1962, when the Program started, through December 31, 1964, there had been 19,298 loans approved with a principal value of more than \$22,000,000.

Loans to medical students, interns and residents all were in greater number in 1964, but the largest gain was registered by residents—nearly a third more loans were received by this group of trainees in 1964 than in 1963.

LESSON IN SOCIALISM: The following story was found in "Probe", a publication of the Virginia State Chamber of Commerce, and it is so good that we just had to bring it to your attention:

"Thomas J. Shelley, a teacher of economics and history, Yonkers High School, Yonkers, New York, explains his graphic method of describing just what socialism means:

'As a teacher in the public schools, I find that the socialist-communist idea of "taking from each according to his ability," and giving "to each according to his need" is now generally accepted without question by most of our pupils. In an effort to explain the fallacy in this theory, I sometimes try this approach with my pupils:

'When one of the brighter or harder-working pupils makes a grade of 95 on a test, I suggest that I take away 20 points and give them to a student who has made only 55 points on his test. Thus each would contribute according to his ability and—since both would have a passing mark—each would receive according to his need. After I have juggled the grades of all the other pupils in this fashion, the result is usually a "common ownership" grade of between 75 and 80—the minimum needed for passing, or for survival. Then I speculate with the pupils as to the probable results if I actually used the socialistic theory for grading papers.

'First, the highly productive pupils—and they are always in a minority in school as well as life—would soon lose all incentive for producing. Why strive to make a high grade if part of it is taken from you by "authority" and given to someone else?

'Second, the less productive pupils—a majority in school as elsewhere—would, for a time, be relieved of the necessity to study or to produce. This socialist-communist system would continue until the high producers had sunk—or had been driven down—to the level of the low producers. At that point, in order for anyone to survive, the "authority" would have no alternative but to begin a system of compulsory labor and punishments against even the low producers. They, of course, would then complain bitterly, but without understanding.

'Finally, I return the discussion to the ideas of freedom and enterprise—the market economy—where each person has freedom of choice and is responsible for his own decisions and welfare.

'Gratifyingly enough, most of my pupils then understand what I mean when I explain that socialism—even in a democracy—will eventually result in a living-death for all except the "authorities" and a few of their favorite lackeys.' "

DID YOU KNOW? Many great men have willed their bodies to medical science as payment of their debt to mankind and these include Abraham Lincoln, Napoleon Bonaparte, James Garfield, Christopher Columbus, and William McKinley.

The only animal that drinks without being thirsty is man.

A Roentgenologist Looks at the Gallbladder, 1965.

THIS EDITORIAL, intensely personal, is based upon a meticulously kept log of engrossing first-hand radiologic experiences with the gallbladder over a period of sixteen years.

Diseases of the gallbladder touch almost all of us in medicine: pediatrician (one of our patients was a lean 12-year-old white girl with no evidence of hemolytic disease), obstetrician (the young woman, often lean, presents with a five-month history of abdominal trouble dating from the birth of her child five months ago), general physician, surgeon, cardiologist (diseases of the gallbladder can mimic or aggravate diseases of the coronary arteries), hematologist, and even the neurologist and dermatologist (herpes zoster in its preeruptive stage must be differentiated from gallbladder disease).

Technique: The yield in radiology of the gallbladder is heavily dependent upon the technique. Only the examination with patient upright with multiple degrees of compression and rotation will give the highest yield of stones. The size of the stones thus detected must be seen to be appreciated. The Kirklin view (right lateral decubitus with horizontal ray also utilizing the effects of gravity) employed with no special equipment is inferior. The examination done with the patient horizontal and ray vertical is lowest in yield (Radiology 67:74, 1956).

It is ideal to combine the gastrointestinal series with the gallbladder examination. It is difficult to separate gallbladder disease from ulcer, especially in women; the coincidence of gallbladder disease and peptic disease is common; non-visualization of the gallbladder may be related to a condition in the gastrointestinal tract, as, for example, retention of the gallbladder medium in an abnormal esophagus, which would have been overlooked without the gastrointestinal study.

The radiologic examination of a patient with a typical history of gallbladder disease should not end with a single normal study, but should be repeated at five or six month intervals. Eventually, abnormality may be found. A woman from our series in whom stones were found after three years of trying is labeled in the file as "A tribute to the patience of the patient, to the persistence of the doctor, and to the primitive state of radiology."

The fatty meal has waxed and waned in favor. In a series we studied some years ago, the fatty meal helped materially in the diagnosis about 1% of the time (Am. J. Dig. Dis. 4:159, 1959). We use it routinely now, except when stones or nonvisualization are present. Filling defects may be either better demonstrated *or obscured* on the post-fat study. The latter case is caused probably not by the fatty meal *per se*, but by a minute change in technical factors. We favor the fatty meal for these three reasons: (1) any theoretical reason that abnormality might be demonstrated therein and not on the pefat study, (2) several additional exposures are made available with uncontrollably minute changes in technique that might result in demonstration of defects (you might even want to change the physical factors of voltage and ampere-seconds expressly), and (3) the unsung virtue whereby the fatty meal might cause the gallbladder to be cleared of confusing overlying colonic shadows.

The radiologic findings proper:

A. Gallstones: The level of flotation of the stones is a reflection of the ratio between their density and the density of the bile. Stones floating high in the infundibulum approach pure cholesterol. Stones floating at two or more levels reflect formation at different stages, with or without the same conditions of formation, and with or without the same subsequent history. Stones may pass through the natural channel, through an abnormal channel, or rarely be resorbed (Ann. Surg. 160:119, 1964). If we could only decipher the "whisperings of nature" in the latter case! The presence of a little free gas in the gallbladder may indicate the recent passage of stones and not necessarily fistula or gas-forming infection (Brit. J. Rad. 27:253, 1954). Films of good quality may allow the visualization of minute amounts of gas within fissured gallstones (Am. J. Roentg. 71:979, 1954). Abundant fine gravel may present the *sign of reversal in density*: In the upright gallbladder, the density of the medium grows less as one approaches the fundus, in contrast to the normal state, because of the presence of innumerable fine granules lying in the fundus that are not recognized as discrete, but take up the space of the normally dense opaque medium.

B. Non-calculous filling defects. The time has long since passed when the radiologic signs of gallbladder abnormality were stones, calcified wall, poor or non-visualization. Many non-calculous filling defects have now to be considered. The commonest of these is the single or multiple small filling defects indicating the subepithelial accumulation of lipid, cholesterosis (Radiology 74:432, 1960). Another non-calculous filling defect, adenomyomatosis, presents either as a button of tissue in the extreme fundus, formerly and erroneously called adenoma, with varying exten-

sions of thickened abnormal tissue extending proximally deforming the contour of the gallbladder, or presents as mucosal evaginations, Rokitan-sky-Aschoff sinuses, that may fill with opaque medium and present as discrete, focal accumulations beyond the lumen. Both manifestations may be combined. Cholesterolosis and adenomyomatosis are related, and Jutras refers to them as the degenerative hyperplastic cholecystoses (Am. J. Roentg. 83:795, 1960). These conditions are an adequate, but not a necessary, cause of symptoms, which may be relieved by removal of the gallbladder. Under stimulus of infection, the mucosa of the gallbladder may proliferate towards the lumen, causing multiple filling defects in a usually poorly functioning organ, cholecystitis glandularis proliferans. True invasive cancer may present as a single filling defect in a *normally* functioning gallbladder, making intervention the favored course in all unexplained filling defects (Radiology 71:563, 1958). The opaque medium may precipitate in an abnormal gallbladder, another cause of significant non-calculous filling defect (Acta. Rad. 52:297, 1959).

C. Other radiologic findings, neither calculous nor non-calculous filling defects: The rare congenital absence of the gallbladder at surgery comes as a surprise to all, and makes the roentgenologist vow to insert in his subsequent reports of non-visualization, "If a gallbladder is present", a vow soon forgotten (Virginia M. Monthly 91:497, 1964). The faintly visualized gallbladder, even after several doses with our new media, must be assigned significance as possibly indicating either gallbladder infection, or disease in the liver, pancreas or intestinal tract. Non-visualization with the first dose and normal visualization the next day after a second dose of the opaque medium may not be as innocent as formerly thought: one young woman with such a history at surgery presented a gallbladder whose wall was chronically inflamed with Rokitansky-Aschoff sinuses, one of which contained a stone at its mouth, smaller than a pin-head, visualized only after careful inspection of the opened specimen. Eccentric contractions of the gallbladder have been said to be especially frequent in women in the "gallbladder age" (Acta. Rad. 49:464, 1958). These have been found of no value in diagnosis in our hands. A large gallbladder shadow indenting neighboring structures on the scout film may be the radiologic equivalent of Courvoisier's law, when the clinician cannot palpate the enlarged structure but its presence can be inferred radiologically.

CHRISTIAN V. CIMMINO, M.D.

MCV and UVA - Please Note

THE JANUARY ISSUE of the Virginia Medical Monthly contained a questionnaire captioned "DOCTOR; We Urgently Need Your Opinion." Every member of The Medical Society of Virginia was urged to answer 10 questions which dealt with reading habits, drugs advertised in the journal and suggestions for the improvement of the Virginia Medical Monthly.

The response to this query was remarkably good and over 300 questionnaires have been returned with late replies continuing to arrive. A detailed report will be made later but the replies to question #10 appear so pertinent that they will be commented upon separately at this time. This query was worded "What is missing (from the journal) that you would like added."

Twenty readers answered this question by requesting that Clinical Pathological Conferences be made a regular feature of the Virginia Medical Monthly. A number of readers took occasion to point out that a wealth of material suitable for CPC's is available at our two state medical schools. The suggestion was frequently made that the type of presentation found in the New England Journal of Medicine would add much to our magazine.

The Virginia Medical Monthly has endeavored to obtain CPC's for a considerable time with complete lack of success but now it is hoped that this grass-roots request by our readers will result in this highly desirable feature becoming a reality in the near future. Your editor realizes that the preparation of a worthwhile CPC is no easy matter. It requires an author with a gift for play-writing in addition to those more prosaic talents usually needed in the preparation of routine medical reports. The extra effort required, however, will be well worthwhile in terms of the ultimate value to our readers. Who will be the first to provide this feature for the journal? Hopefully it will be one, or preferably both, of our medical schools or perhaps one of the larger hospitals in the Norfolk area or possibly a Veterans Administration hospital.

H.J.W.

News

New Members.

The following new members were admitted into The Medical Society of Virginia during the month of March:

Joseph L. Atchison, M.D., Springfield
Elmore J. Becker, M.D., Richmond
Lynn French Blake, M.D., Abingdon
Edward E. Cale, Jr., M.D., Radford
Charles M. Earley, Jr., M.D.,
Virginia Beach
Bruce Leslie Gilmore, M.D., Alexandria
Julian Lee Givens, M.D., Independence
William Crockett Greer, M.D., Roanoke
Joseph Thomas Kaye, M.D., Arlington
Irvin S. Miller, M.D., Richlands
David Parrish Minichan, Jr., M.D.,
Charlottesville
Gabriel Albert Nigrin, M.D.,
Charlottesville
Edwin Manuel Ortiz, M.D., Alexandria
Joseph Cosgrove Peck, M.D., Galax
James Tindal Quattlebaum, M.D.,
Alexandria
Russell Edward Randall, Jr., M.D.,
Richmond
Richard Shuman, M.D., Norfolk
William Robert Wisman, M.D., Roanoke.

Virginia Academy of General Practice.

At the annual meeting of the Academy held at Hot Springs in March, Dr. Russell G. McAllister, Richmond, was installed as president. Other officers are Dr. Robert L. Cassidy, Culpeper, president-elect; Dr. J. Powell Anderson, Waynesboro, vice-president; Dr. J. W. Carney, Newport News, secretary; and Dr. William P. Morrisette, Midlothian, re-elected treasurer. New directors are Drs. William C. Gill, Jr., Richmond; Herman W. Brubaker, Roanoke; David B. Walthall, Dublin; Frank A. Carroll, Alexandria; and James R. Holsinger, Luray.

Virginia Pediatric Society.

The annual meeting of this Society was held at the Greenbrier, White Sulphur Springs, West Virginia, February 26-27. Dr. Robert H. Anderson, Arlington, was elected president; Dr. William P. Spencer, Richmond, vice-president; and Dr. Harrison C. Spencer, Abingdon, secretary-treasurer.

Dr. Russell M. Cox,

Portsmouth, has been elected to the National Board of Medical Examiners. He is believed to be the first member from Virginia. Dr. Cox is secretary-treasurer of the Virginia Board of Medical Examiners.

Dr. C. I. Sease, Jr.,

Harrisonburg, has been elected president of the Virginia Urological Society.

Dr. Paul W. Robinett,

Has been elected president of the Portsmouth Executives Club.

The Medical Association of the Valley of Virginia

Will meet at the Ingleside Hotel, Staunton, on May 21st. There will be a varied program with speakers from the local area, followed by a clinicopathological conference.

Further information may be secured by the secretary, Dr. John T. Glick, Jr., Broadway.

Dr. Charles M. Caravati,

Richmond, has received the first Louise Obici Memorial Hospital Award for outstanding contributions to medicine. This was made at the Hospital's annual clinical conference in Suffolk on April 7th.

Dr. Philip Sprinkle,

Charlottesville, has been appointed chairman of the division of otolaryngology at the medical school of the West Virginia University, effective July 1st. He is now assistant professor of otolaryngology at the University of Virginia.

Dr. Elizabeth C. Cole,

Formerly of Norfolk, will begin practice in Claremont the latter part of April.

Dr. Cole returned to her hometown of Norfolk in January of this year after completing two years as a Peace Corps volunteer in Malaya with the aborigines. She also served in India with the American Friends Service Committee.

New Local Chapter of General Practice.

A local area chapter of the Academy of General Practice has been formed by a group of Galax and twin county doctors. Dr. W. J. Stanford, Galax, has been elected the first president, with Dr. F. Clyde Bed-saul, Floyd, as vice president, and Dr. William B. Waddell, Galax, secretary-treasurer.

Dr. John W. Painter,

Fredericksburg, has been elected president of the Virginia Association for Mental Health. He will serve a two-year term.

American Medical Association.

The 114th annual convention of the American Medical Association in New York City, June 20-24, will have an international theme throughout the scientific programs. Eminent foreign physicians will deliver lectures and large delegations of physicians from many foreign countries will attend the convention and participate in the scientific sessions. The six general scientific meetings will offer the latest research developments in adverse drug reactions; organ transplantation; hearing; non-narcotic drug addic-

tion; metabolism in growth development and aging, and diagnostic cytology.

The complete program of the convention will be published in the May 10th issue of the Journal of the American Medical Association.

Joint Meeting of Physicians and Ministers.

The first joint meeting of the Lynchburg Academy of Medicine and the Lynchburg Ministerial Association was held March 3rd at the Lynchburg General Hospital. Chaplain Temple of the Lynchburg General Hospital presided.

The meeting began with a buffet luncheon at which Mr. Raymond Hogan, Administrator of the Lynchburg General Hospital, was host. Following the luncheon, there was a showing of the AMA Film, "The One Who Heals". This was followed by an interesting and informative discussion by both the doctors and clergy. A positive reaction was the need for future meetings of this type because it was felt that the religious faith of the individual patient is a vital factor in his total health.

Mr. Hogan closed the meeting with this remark which was a fitting climax to a most successful meeting, "We appreciate this opportunity to bring together groups which are concerned with patient care for a discussion of mutual avenues of pursuit to enhance the over-all treatment of patients and the facilities of this Hospital will always be available for such meetings."

JOHN WYATT DAVIS, JR., M.D.
*Chairman, Committee on Medicine
& Religion
Lynchburg Academy of Medicine*

Gold Medical Award Contest.

The Academy of Psychosomatic Medicine announces the annual Gold Medal Award contest for the best paper on a clinical or research subject in the field of

psychosomatic medicine. The winner will receive the Medal and deliver his paper at the annual meeting in Chicago in October.

For full particulars, write to Benjamin Schneider, M.D., Chairman, 123 East Market Street, Danville, Pennsylvania.

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Are you looking for something different in specialty training? Why not consider Physical Medicine and Rehabilitation as one of the youngest of the medical specialties? It has many unique opportunities and challenges. It has many of the favorable aspects of general practice without many of the headaches. Because of the serious shortage of physicians in this field, very generous training grants are available from the Vocational Rehabilitation Administration. For further information on a PMR residency program, contact John B. Redford, M.D., Box 846, MCV Station, Richmond. (*Adv.*)

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Physician for urban and country practice near large city in Virginia. Hospital advantages. For further information, write #55, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

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A second semi-retired physician is also needed for restricted practice.

Send complete biography to #80, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

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Write #20, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Obituaries

Dr. Lewis Berlin,

Norfolk, died March 18th, after a long illness. He was eighty-six years of age and a graduate of the College of Physicians and Surgeons of the University of Maryland in 1901. Dr. Berlin practiced in Norfolk following his graduation and until his retirement in 1955. He had been a member of The Medical Society of Virginia for sixty-four years.

A son and a daughter survive him.

Dr. William Hoge Wood, Jr.,

Charlottesville, died March 12th, at the age of fifty-nine. He was a graduate in medicine from the University of Virginia in 1933. He began the practice of pediatrics in Charlottesville in 1937. Dr. Wood was for several years a member of the faculty of the University of Virginia. He was a past president of the Albemarle County Medical Society and had been a member of The Medical Society of Virginia for twenty-seven years.

His wife and two sons survive him.

Dr. David Lemuel Harrell, Jr.,

Arlington, died March 5th. He was sixty-one years of age and a graduate of the Medical College of Virginia in 1930. Dr. Harrell served as superintendents of the Petersburg State Colony, Western State Hospital, and the Lynchburg Training School and Hospital. He resigned from the Lynchburg School in 1952 and entered private practice in Lynchburg, where he remained until the latter part of 1964. Dr. Harrell had been a member of The Medical Society of Virginia for twenty-six years.

His wife, a son and a daughter survive him.

Dr. Henrik Shelley,

Chincoteague Island, died March 10th.

He was forty-seven years of age and received his medical degree from the Georgetown University in 1943. Dr. Shelley had suffered a coronary thrombosis in January of this year. Dr. Shelley served with the medical corps of the Navy during World War II. He was awarded the Silver Star, the Purple Heart, and other awards for meritorious service. At the centennial celebration of his alma mater, LaSalle College in Philadelphia, he was given an award for his "selfless contribution in the practice of medicine." He located in Chincoteague in 1946. He was a member of The Medical Society of Virginia, having joined in 1946.

His wife, four daughters and a son survive him.

Dr. Stuart Gray Coughlan,

Staunton, died April 2nd, at the age of fifty-three. He graduated from the University of Maryland, School of Medicine, in 1937 and served as an instructor there from 1945 to 1949. Dr. Coughlan was with the United States Army in the Pacific during World War II. He had been a member of the staff of King's Daughters' Hospital in Staunton since 1950. Dr. Coughlan had been a member of The Medical Society of Virginia for fifteen years.

His wife, a daughter and a son survive him.

Dr. Abe Leon Schwartz,

Gloucester, died March 29th. He was fifty-eight years of age and received his medical degree from the University of Cincinnati in 1930. He was the first head of the department of anesthesia and gas therapy at the Jewish Hospital in Cincinnati. He held this post and chief of the staff for twenty years. In 1957, Dr. Schwartz moved to Gloucester. He was an anesthesiologist at Dixie Hospital in Hampton and a member of the Staff of the Community Memorial

Hospital in Williamsburg. He was a member of The Medical Society of Virginia.

His wife, two sons and a daughter survive him.

Dr. Williams

Again it is our sad task to present resolutions on the occasion of the loss of an esteemed member of the Richmond Academy of Medicine and a close personal friend.

The tragic death of Dr. Ennion Skelton Williams, on the eighth of February, as the result of a plane crash in the Atlantic Ocean has taken from us an outstanding physician, a tireless civic worker and a Virginia gentleman in the finest sense of the word. He was born into a family that placed public service above personal gain. His father, Dr. Ennion G. Williams, was the first Commissioner of Health in Virginia. He, more than any other individual, was responsible for the eradication of the communicable diseases which took such a great toll of lives in Virginia at the turn of the century. A grateful Commonwealth built a hospital in his memory just a stone's throw from where we now are. His son, Ennion, was raised in the same tradition.

Dr. Williams was graduated from the University of Virginia in 1926 after three years of undergraduate study. After one year of medicine in Charlottesville he transferred to the Medical College of Virginia where he received his medical degree in 1930. The next three years were spent in post-graduate training in Philadelphia. He practiced internal medicine for one year after his return to Richmond in 1933 and then joined the Life Insurance Company of Virginia as assistant medical director. In 1938 he became medical director, in 1956 vice-president and three months ago he was made senior vice-president.

Dr. Williams was outstanding in his field of medicine and in 1959 he was elected President of the Association of Life Insurance Directors of America. He was chairman of numerous life and health insurance committees. As president and treasurer of the Virginia-North Carolina 65 Health Insurance Association he played a major role initiating this solution for old age hospital care without recourse to the federal government.

His community interests were many. In 1934 he was chairman of a special committee of The Medical Society of Virginia that dealt with venereal disease. More recently he headed another state-wide group that studied tuberculosis in Virginia. He was a former president of the Children's Home Society of Virginia and the Richmond Tuberculosis Associations. Dr. Williams was active in the affairs of The Virginia Medical Monthly. For three years he served as associate editor with Dr. M. Pierce Rucker. He con-

tinued on the Editorial Board of the journal thereafter and was the senior member at the time of his death.

Despite living in Goochland County Dr. Williams was loyal in attendance at all Richmond Academy of Medicine activities. Each year found him on at least one committee and he usually was designated as chairman. He devoted many hours to the Section on the History of Medicine and he was Chairman of the Section for two years. He was treasurer of the 1957 Jamestown Medical Exhibit and served in the same capacity, during the past four years, for the Confederate Medical Exhibit now drawing to a close. This was a time-consuming and doubtless a dull assignment but it was typical of Ennion that he gave of himself unstintingly to any task he undertook. He never refused a request to aid in any worthwhile endeavor. His sense of duty prompted him to enter the Navy at the onset of World War II. He was discharged in 1946 with the rank of lieutenant-commander. He was a member of the Vestry of St. Mary's Episcopal Church and was hastening to Richmond to attend a meeting of this body when he fell to his death with his fellow passengers in Eastern's Flight 663.

He is survived by his mother, Mrs. Ennion G. Williams, his wife Mrs. Ann Hill Williams, and two daughters and a son. So now,

WHEREAS we of the Richmond Academy of Medicine have suffered a bitter loss in the death of our fellow member and friend, Dr. Ennion S. Williams, and

WHEREAS his activities on behalf on the material as well as the physical welfare of his fellowman were marked by that spirit of conscientious and unselfish service which characterized all his actions, now

THEREFORE BE IT RESOLVED that this memorial shall be preserved in the records of the Richmond Academy of Medicine as a token of our esteem, and

BE IT RESOLVED FURTHER that a copy be forwarded to Dr. Williams' family as an expression of our sympathy.

T. STANLEY MEADE, M.D.

HOWARD McCUE, M.D.

HARRY J. WARTHEN, M.D., *Chairman*

Dr. Brawner

Luther Clifton Brawner was born in Dalhart, Texas, on November 18, 1915, and died near Charleston, South Carolina, on February 3, 1965, in the crash of his private plane.

He attended undergraduate school at the University of Oklahoma, receiving the degree of Bachelor of Arts in 1935, the Bachelor of Science in 1937. In his premedical aptitude test he ranked third in the nation. The degree of Doctor of Medicine was conferred by the University of Oklahoma in 1939. Richmond has been his home since 1939, when moving

here with his bride, he took a rotating internship at the Medical College of Virginia, followed by a residency in ophthalmology at the same institution from 1941 through 1943. From that date until 1948 he held a fellowship in ophthalmology at the Medical College of Virginia and was associated in private practice with Drs. Thomason and Childrey of Richmond. In 1949 he started full time solo practice in his chosen field of ophthalmology.

Unhappy in being deprived of the opportunity to serve in the Armed Forces in World War II because of a pulmonary infection, his convalescence served as his introduction to aviation. He mastered instrument flying, navigational courses and techniques far beyond the essentials for a private pilot.

Luther Brawner, his enormous ability in ophthalmic surgery born or acquired, realized that technical perfection, desirable in all surgical fields was *a sine qua non* in ophthalmology and devoted himself to that goal. His personal contact with the resident staff of the ophthalmology department of the Medical College of Virginia was largely responsible in converting residents into competent ophthalmic surgeons, residents who could count on his interest, judgment and willingness to serve.

In the late forties, surgery of the cornea was becoming of age, affording the fortunate blending of the opportunity and the man. Initial frustrating experimental work in keratoplasties culminated in his first corneal transplant in man on December 13, 1946, a transplant still transparent when last seen a few weeks ago, a remarkable accomplishment when one considers the primitive instruments and suture materials available at that time. His interest in corneal surgery continued and it was to be expected that he would play an important part in the establishment of the Old Dominion Eye Bank, serving as Chairman from 1962 through 1964, then remaining on the Board of Directors.

An outgrowth of his work with the Old Dominion Eye Bank, the Eye Bank Association of America and the International Eye Bank was a six weeks' tour of duty in Algiers in 1963 under the auspices of Care-Medico and the International Eye Bank. He was instrumental in the establishment of the rotating Eye Mission at Beni-Messous Hospital in Algiers which is now an integral part of the medical program in that country. In May 1964, in recognition of his efforts on behalf of the Eye Bank System has was the recipient of the rare distinction of being made an Honorary Member of Lion's International.

He was on the Staff of the Richmond Eye Hospital, Richmond Memorial Hospital, Retreat for the Sick, Sheltering Arms Hospital and the Medical College of Virginia, where he held the rank of Assistant Clinical Professor of Ophthalmology. He held membership in the Richmond Academy of Medicine, The

Medical Society of Virginia, the American Medical Association, the Southern Medical Association, the Richmond Eye, Ear, Nose and Throat Society, the Virginia Society of Ophthalmology and Otolaryngology and was a Charter Member of the Flying Physicians Association.

He is survived by his wife, three daughters, one son, his father, two sisters and one brother.

As the Richmond Academy of Medicine has lost a very valuable member, we propose that this resolution be incorporated into the minutes of this meeting and that copies be sent to his family and to The Medical Society of Virginia as verification of our sincere sympathy.

L. JAMES BUIS
RUDOLPH C. THOMASON
WALTER MAYER

Dr. Evans

Dr. William Hughes Evans, a member and former Chief of the Obstetrical and Gynecological Department of the Richmond Memorial Hospital, was born in Richmond in 1912.

Dr. Evans, who had practiced here since 1939, was graduated from the McGuire School, the University of Richmond and the Medical College of Virginia School of Medicine. He served his internship and residency in obstetrics and gynecology at the Medical College of Virginia.

He was a member of the Richmond Academy of Medicine, The Medical Society of Virginia, the American Medical Association, the Richmond Obstetrical and Gynecological Society, the Virginia Association of Obstetrics and Gynecology, the South Atlantic Association of Obstetricians and Gynecologists, a Diplomate of the American Board of Obstetrics and Gynecology, a Fellow of the American College of Obstetricians and Gynecologists and a Fellow of the American College of Surgeons.

For many years he served as Chief of the Obstetrical Service of both St. Lukes Hospital and Grace Hospital. During this period he also was a member of the teaching staff of the Medical College of Virginia.

Dr. Evans was married to the former Elizabeth Miller, daughter of the late Dr. and Mrs. Roshier Miller and they had one son. Also surviving is his mother.

He will always be remembered by his colleagues and his patients for his sincere devotion to his patients and the ardent practice of his specialty until the time of his death on November 2, 1964.

May I offer these remarks in the form of a resolution to be recorded in the minutes of this meeting and with the request that a copy be sent to both his wife and his mother as an expression of our sincere sympathy to each of them.

WILLIAM H. COX, M.D.



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(LX02)



BALTIMORE, MARYLAND 21201

VIRGINIA MEDICAL MONTHLY

(Founded by Landon B. Edwards, M. D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

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4205 Dover Road

Richmond, Virginia 23221

Annual Subscription—\$2.00

Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL

Adoption: A Follow-up Report—*Lois Benedict*..... 247

ORIGINAL ARTICLES

Depuytren's Contracture—*Robert L. Payne, Jr., M.D.*..... 249

A New Approach to Cystic Disease of the Breast—*Jerome E. Adamson, M.D., Charles E. Horton, M.D., and Hugh H. Crawford, M.D.*..... 253

The Complexity of Salivary Gland Disease—*John A. Gill, M.D.*..... 257

Breast Cancer Prognosis—Evaluation of Long-Term Series of Private Patients—*Armistead M. Williams, M.D.*..... 265

The Prognostic Value of the Nerve Excitability Test in Peripheral Facial Paralysis—*Francis H. McGovern, M.D., and Edward Thompson, M.D.*..... 269

A Review of the Literature Concerning Smoking During Pregnancy—*Harry H. Howren, Jr., M.D.*..... 274

MENTAL HEALTH

Recommendations of the Virginia Mental Health Study Commission—*Sam Carey*..... 280

DIAGNOSTIC LABORATORY MEDICINE

Bilirubin Toxicity Kernicterus—*C. Burkhardt, M.D.*..... 285

PUBLIC HEALTH

Poison Control Centers..... 287

CORRESPONDENCE

"Please, Mr. Shriver!"—*Martin Donelson, Jr., M.D.*..... 289

WOMAN'S AUXILIARY..... 290

EDITORIAL

Results of the Questionnaire—*Harry J. Warthen, M.D.*..... 291

Rampant Welfare—*G. W. Jones, M.D.*..... 292

NEWS..... 294

OBITUARIES..... 296

The MONTHLY is not responsible for the opinions and statements of its contributors
All advertisements are accepted subject to the approval of the Editorial Board.

Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 38

Guest Editorial

Adoption: A Follow-up Report

IN AUGUST 1963 the Virginia Medical Monthly presented some facts about adoption as seen by the Children's Home Society in Virginia. They are here brought up to date.

The need continues to increase. The number of mothers who asked the Society to receive their babies for adoption has increased 53% since 1960, 136% since 1950. In five years there had been an increase of 74% in the adoptions granted by the Courts of the state of children not related to the petitioners. (There is also a substantial number of adoptions by step-parents, grandparents, etc., not included in these figures.) Factors in the increase appear to be: the population of the State has increased, especially among adolescents and very young adults; the white illegitimacy rate has increased from 23.5 per thousand live births in 1958 to 28.5 in 1962; agency service seems to be desired by more and more mothers.

More mothers are from the socially privileged group than formerly. Babies are placed younger: in 1964 56% were under three months of age, 91% under six months of age. Perhaps this is related to the mother's social status which implies good capacity, good medical care and available information.

The waiting time for adoptive families is considerably shorter. In 1964 49% of the families had their babies within six months, 84% within nine months of the date of application.

In adoption a child ends all ties with the past and makes a completely new start. A statewide agency can facilitate this by placing him in a community where he has no ties. This is more difficult for the local agency, both the publicly supported agency and the voluntary one. All possible precautions are, however, taken by these local agencies.

While the local Departments of Public Welfare throughout the State are authorized to make adoption placements, service usually is available only to legal residents of the community. The mother who comes from out of State to be with a relative, and at the same time to conceal her situation from her home community, usually is not eligible for help from the public welfare program. For the mother who is a local resident, the agency in her home is often the last place she wants to go for help although confidentiality is stressed.

There is not enough service to meet all requests. Before 1960 the number of mothers refused service by the Children's Home Society be-

cause resources were insufficient at the time they were needed was so small it was not recorded. By 1963 one in three mothers had to be refused. The immediate bottleneck is staff. Although qualified social workers are in short supply and the quality of personnel is important in a service where actions taken are not reversible, adequate financing permits expansion. The Society is financed mainly by United Funds and Community Chests, by individual contributions in areas where there is no federated giving, and by fees from adopting couples. In addition, the Board of Directors usually budgets a deficit to be met from unrestricted capital funds, in the interest of extending service. There was considerable expansion in 1964. There is, however, a limit.

Families who adopt are economically independent. Tax supported agencies have no fee system but most voluntarily supported agencies expect families to meet part of the cost of the service which they receive. The Children's Home Society has a graduated fee scale, related to income, the maximum less than the present cost of home study, placement and supervision until legal completion. If it appears that the fee works a hardship on a family an adjustment can be considered. This fee does not pay for preadoption study of the baby nor service to the natural parent. It releases contributed funds to be used for mothers and babies and so makes adoption possible for more babies and their parents.

If the Children's Home Society were equipped to receive all babies whose mothers wish it, there would not be enough adoption homes. While the number of infants available for adoption has increased, the number of families has remained stationary. A single cause of this is not known. Factors which have been considered are: medicine's increasing ability to treat infertility; the high percentage of adolescents and elderly persons in our population, and the smaller proportion in the age group which adopts; a tradition that adoption agencies are highly unreasonable. This is often based on hear-say about practices which never existed or which have not been true for a long time. Admittedly it is hard to talk with a stranger about involuntary childlessness, and about one's hopes and fears concerning the child who might be adopted. This is especially true since couples know that a responsible agency cannot always act according to their wishes. The number who are refused by the Society is very low. Some are advised to wait. The current ratio of more children available than families frequently results in a very short waiting time after the family is ready.

The Society asks the doctors to understand that there is deep regret when a prospective mother cannot be helped; that it would welcome referral of couples interested in adopting and support in increasing resources leading to expansion of services.

LOIS BENEDICT, B.A., M.S.W.

Editor's Note.

Miss Benedict is General Secretary, Children's Home Society of Virginia. She has been with this Society since 1947. She was previously associated with the Children's Aid Society of Pennsylvania, the St. Louis Children's Aid Society, and from 1941 to 1947 was Director of the Children's Bureau of the Virginia State Department of Public Welfare.

Dupuytren's Contracture

ROBERT L. PAYNE, Jr., M.D.
Norfolk, Virginia

This common condition is frequently misunderstood. The stages of the disease and the indications for surgery have been described.

DESPITE THE VOLUMINOUS LITERATURE that exists on the subject, Dupuytren's contracture is a condition about which misconceptions exist. It is still occasionally mistaken for tendon injury, shortening or other conditions. The recognition and diagnosis should present no real difficulty. Since the condition is common, all physicians would do well to understand the therapeutic benefits and indications for treatment.

The term "Dupuytren's disease" is a more accurate description than Dupuytren's contracture since true contracture is not present in many cases. The condition was first described in 1610. When Dupuytren's original article was published in 1832, this contained a description of the disease, a record of anatomical dissections, and details of the operation which he had performed on two patients.

Dupuytren's contracture is a fibrous thickening of the palmar fascia or aponeurosis. This fascia is a triangular sheet of tissue which arises in the base of the palm from the insertion of the palmaris longus tendon. If this tendon is absent, it arises from the anterior fascia of the wrist. The palmar fascia passes outward in the palm as a broad band and into the fingers as four distinct bands. It is attached to the skin of

the palm by numerous small projections. In the palm multiple septa extend deep into the hand to attach to the deep palmar fascia and form tunnels through which the tendons, nerves, vessels and lumbrical muscles pass. The basic pathological change is a fibrous thickening of the palmar fascia. Small nodules are usually the first manifestation of the disease, followed by the appearance of thick contracted bands in the palm. There is loss of the subcutaneous fat and the palmar skin becomes adherent to the fascial nodules. The skin over these nodules is often quite thin and atrophic. In the later stages of the disease, the characteristic flexion contractures of the fingers are present. The ring and little fingers are most commonly involved.

Despite many theories as to the etiology of the condition, no general agreement on the cause exists. It is fair to state that the true etiology is unknown. Trauma has been considered by many to be a causative factor but most series have a larger percentage of nonmanual workers than of manual laborers. There is a strong familial tendency. The disease is generally considered to be hereditary. It occurs in about one to two percent of the population, mostly in the older age groups. It is much more common in males than in females and has a definite tendency to be bilateral. It is occasionally associated with a similar disease of the plantar fascia. The characteristic nodules are the common manifestation seen in the foot and a true contracture is rare. There is a similar condition of the penis, Peyronie's disease, but this is not often seen in patients with Dupuytren's contracture. Dupuytren's is primarily a disease of the Caucasian race and is extremely rare in a true Negro. Many observers have noted the high incidence of Dupuytren's contracture in epileptics. In

Presented at the Annual Meeting of The Medical Society of Virginia, Norfolk, October 11-14, 1964.

various series of epileptics, this has been reported to be from nine to fifty percent. The significance of this is not understood. Epilepsy, however, is a very rare finding in the overall group of patients having Dupuytren's.

The diagnosis of Dupuytren's contracture should be easily made. An early and characteristic finding is the nodule attached to

change the contracture which is due to tendon shortening or injury. The symptoms from Dupuytren's contracture consist as a rule of only mild discomfort in the palm. This may not be noticed until the disease has progressed to an advanced stage. Severe pain is usually an indication of another condition, such as gout or nerve compression.

While it is generally agreed that the only



Fig. 1. Bilateral Dupuytren's contracture. The contracture is more extensive on the left.

the skin of the palm. This is usually in the line of the ring finger. Flexion contractures may not be present and, in many cases, the disease does not progress to the stage of contracture. Contractures when present are not difficult to distinguish from arthritis or tendon contractures. In arthritis there is a limitation of both the flexion and extension of the fingers. Whereas, in Dupuytren's contracture, no limitation of active flexion of the fingers is present. In a true tendon contracture the distal joints are usually flexed. This is not true in Dupuytren's. Flexion and extension of the wrist often

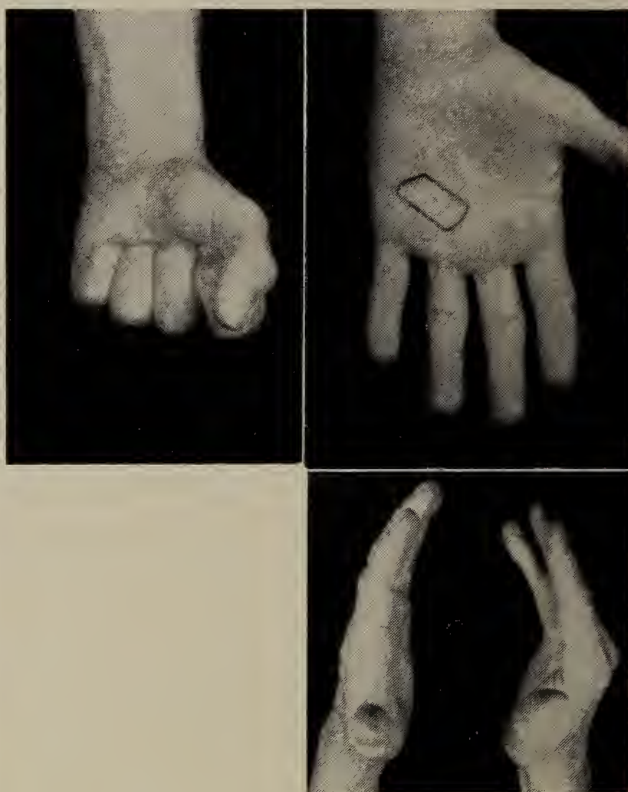


Fig. 2. Postoperative views of same patient. Radical fasciectomy has been done on the left hand. The area outlined is grafted skin. No repair has been done on the right.

effective treatment of Dupuytren's contracture is surgery, a few nonsurgical methods should be mentioned. Vitamin E (alpha tocopherol) is recommended by a few authors in the treatment of this condition.⁵ It is fair to say that the great majority of those who have written on the subject do not believe in this drug. The author has seen a few cases in which early tenderness seems to subside dramatically and in which there is no progression of the disease after observation for a few years. Although evaluation is admittedly difficult, it is recommended for selected patients with early stages of the disease.

The injection of hydrocortisone into the tissues of the palm has been tried. The results have not been satisfactory and this is not considered a useful form of treatment. Radiation therapy has also been tried. While benefit has been reported by a few authors, it is generally inferior to surgery and is not recommended.

Surgery offers the only really effective method of treating Dupuytren's contracture. Operation, however, is clearly not indicated in all cases and, in fact, good results are completely dependent on the judicious selection of the proper type of surgery for the individual patient. If postoperative swelling and stiffness of the hand persist, if the patient is unable to completely flex his hand and if in addition the hand is painful, it is obvious that the operation has made the patient worse rather than better. These are the common complications of too vigorous surgery.

In general, there are three types of surgical procedure which are available. Subcutaneous fasciotomy is a procedure in which a small knife blade, such as a cataract knife, is inserted under the skin and the thickened bands in the palm are severed as a blind procedure. This causes very little disability and is probably safe when done in the palm. It is not recommended for use in the fingers because the danger of nerve injury is too great. This procedure is not widely used, although it is recommended by some surgeons with a wide experience in surgery of the hand. The benefit to be expected from this type of procedure is not great.

Limited excision implies excision of only the thickened fibrous bands with no attempt being made to excise all of the palmar fascia.

Radical fasciectomy implies the total or radical excision of all of the palmar fascia whether or not it is involved in the disease. Multiple incisions may be necessary, particularly in the fingers. While this procedure is certainly indicated in cases that are entirely suitable, undue enthusiasm for this radical procedure has been responsible for

much postoperative disability. This operation has been advocated widely for the reason that there is a greater likelihood of recurrence if all the fascia is not removed. It seems obvious, however, that the chance of a small recurrence at a later date is not a great price to pay for a satisfactory postoperative result. This is particularly true since such recurrences can usually be handled quite simply by a secondary procedure.

It becomes obvious that the indications for surgery are a matter for careful consideration. In this regard, Bruner¹ describes a three-stage classification of this disease. Stage one consists of hyperplastic nodules or bands which are present in the palm or fingers but in which there is no contracture. These patients have no appreciable disability and the function of the hand is essentially normal. They should be reassured as to the nature of their condition and should be kept under observation to determine whether the condition is progressive. The so-called "prophylactic fasciectomy" is to be condemned.

Stage two consists of early flexion contractures of one or more fingers. It is in this group of cases that the best results are obtained. Many factors should be considered, such as the age, occupation and general health of the patient. Radical fasciectomy is indicated in many of these cases, particularly in younger individuals.

Stage three is the stage of late contracture of one or more fingers, and in this stage there are often secondary joint changes and marked skin involvement. Many of these patients are quite elderly and may be retired from active work. Conservative surgery in the form of a local resection or possibly subcutaneous fasciotomy is indicated. Amputation of a finger drawn tightly into the palm and causing considerable discomfort is occasionally necessary.

In general, better results can be expected on younger patients. Middle aged patients with fairly supple joints are obviously better candidates for the more radical procedure. It is generally recognized that women do

less well after operation and probably a more conservative operation should be done. They have a much greater tendency to postoperative complications and, in particular, postoperative stiffness and pain. Arthritis of the finger joints predisposes to a poor result and more postoperative disability. Vascular diseases and trophic disorders contraindicate surgery. It has been stated that the presence of rheumatoid arthritis in the hand is an absolute contraindication to any surgery. Another factor which undoubtedly should be considered is the patient's desire for improvement. It is the author's conviction that this is not a condition in which surgery should be "sold" to the patient. In discussing operation, the surgeon is well advised to avoid persuasion and limit himself to a clear and reasonable evaluation of the results which can be expected.

It is obvious that no sharp line of demarcation can be made between the operations of limited and radical fasciectomy. In general, the more radical the procedure, the more prolonged is the postoperative stiffness. This is the principal objection to radical fasciectomy. Any amount of fascia may be excised in an individual case. The procedure can be as limited or as radical as the surgeon thinks proper for the particular patient after due consideration of all factors involved.^{1,6,7}

In many patients there is extensive involvement of the skin of the distal palm. At times skin must be sacrificed and in this case a graft is obviously necessary. The relief of the contracture and the opening of the palm after the fascia has been excised can also be a factor in creating a skin defect. It is wiser to excise skin in which the blood supply is markedly impaired and viability is in considerable doubt. It is also far preferable to utilize a graft rather than to attempt closure of skin under tension. A full thickness skin graft is preferred, and an excellent graft can usually be obtained using

the thin skin of the volar surface of the forearm. This area is always included in the operative field and the defect left by removing the graft can be closed primarily without difficulty.

Summary

Dupuytren's contracture has been briefly reviewed. Surgery is the only method of treatment which is effective after contracture has occurred. Many cases, however, never develop a true contracture and operation is not indicated. Surgery may be either quite radical or very conservative. Skin grafting is often necessary. Selection of the proper procedure for each patient is stressed. Excessive surgery can be disastrous. Restoration of function should be the primary consideration. Good results are to be expected in the great majority of cases if the proper patients are selected for surgery and the proper operation selected for each patient.

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A New Approach to Cystic Disease of the Breast

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The woman with cystic disease of the breast may be faced with a choice of simple mastectomy or of recurring excisions. Neither alternative is acceptable. The difficulty is easily solved by the excision of all of the glandular tissue and insertion of a suitable prosthesis at the time of the first operation.

IN THE PAST, the dilemma of satisfactory treatment of the female patient who is plagued with fibro-cystic disease of the breast has challenged both patient and physician. The problem of recurring breast disease has been approached either by excision and re-excision of recurrent masses until the breast is often reduced to a scarred, deformed mass with the potential for carcinoma still present, or the severe alternative of simple mastectomy.

In a recent review¹ of the world literature and their own experience, Davis, Simons and Davis emphasize that "... the incidence of breast carcinoma in women with cystic disease to be 2.64 times greater than in women in general." "The articles that give statistics on the study of breast tissue removed for cystic disease report an average incidence of 17.8 percent of carcinoma."

There is much disagreement^{2,3,4} regarding the relationship of cystic disease and breast carcinoma, but the important role of papillomatosis and epithelial hyperplasia is more

fully substantiated as precancerous changes.

Haagensen⁵ in his book, *Diseases of the Breast*, published in 1956, reported a rate of 4.9 percent of patients previously established by biopsy as having cystic disease developing carcinoma in the same or opposite breast.

Repeated resection of fibro-adenomata and cysts is unsatisfactory, expensive and may tempt the patient to postpone treatment of the breast mass which is an early carcinoma. In addition to the unpleasant cosmetic and psychological results following simple mastectomy, it is being recognized that in those patients who have cystic disease of the breast and who develop cancer, almost half of the carcinomas develop in the opposite breast.¹ The alternative of bilateral mastectomy is usually such an unpleasant one as to be rejected by all concerned if possible.

The role of the breast in our society has been emphasized to the point that in the usual instance the woman faced with the possibility of loss of one or both breasts suffers psychological trauma of varying degrees. Prevention of a reactive depression or emotional withdrawal so frequently seen following mastectomy is certainly a positive step forward in the treatment of these patients. Primary reconstruction is an important addition in total rehabilitation.

Fortunately, during the past few years with the development of appropriate techniques and refinements in the manufacture of well-tolerated breast prostheses, a satisfactory answer to the treatment of cystic disease of the breast has been developed.⁶ Simple resection through a submammary incision (Fig. 1) of all of the glandular portion of the breast, leaving as much fat tissue

of the breast as possible is performed. With complete resection of the diseased tissue, the problem of cancer is solved. An appro-

leeding from the resection site, insertion of the prosthesis is delayed for forty-eight hours.

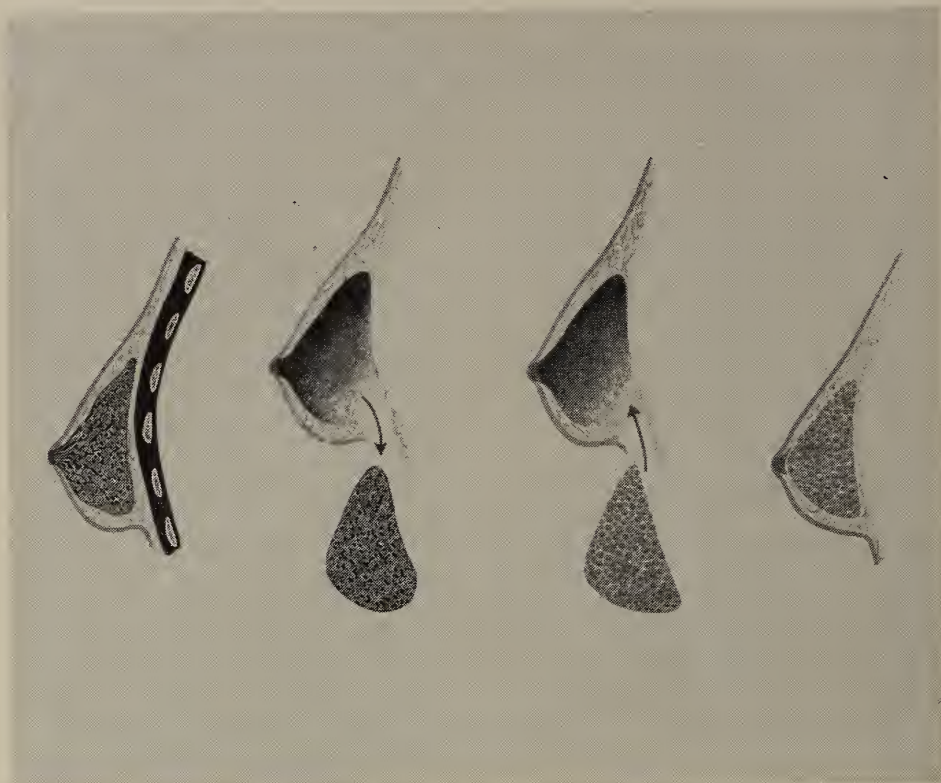


Fig. 1. Reading from left to right, this diagrammatic representation shows the breast cavity remaining after resection of the diseased glandular tissue. Reconstruction after subcutaneous simple mastectomy with a plastic prosthesis completes the operative procedure. Usually the breast can be enlarged.



Fig. 2. The left breast of this patient was almost completely absent. By performing a reduction mammoplasty on the right side and an augmentation procedure on the left, a satisfactory result was achieved.

priately shaped breast prosthesis is inserted into the remaining defect and the reconstruction completed.

In some instances because of continued

If pendulous breasts are involved with cystic disease, a reduction mammoplasty can be performed after resection of the glandular portion. The excess fatty tissue is utilized

instead of a prosthesis for reconstruction. (Fig. 2)

The quality of the result that is obtained is directly related to the amount of fat in the subcutaneous portion of the breast skin that is present preoperatively. (Fig. 3) In

Innumerable instances of augmentation mammoplasty in recent years have not demonstrated any carcinogenic effect of any of the prostheses.⁷

By utilization of a prosthesis and a new approach to the problem of chronic cystic

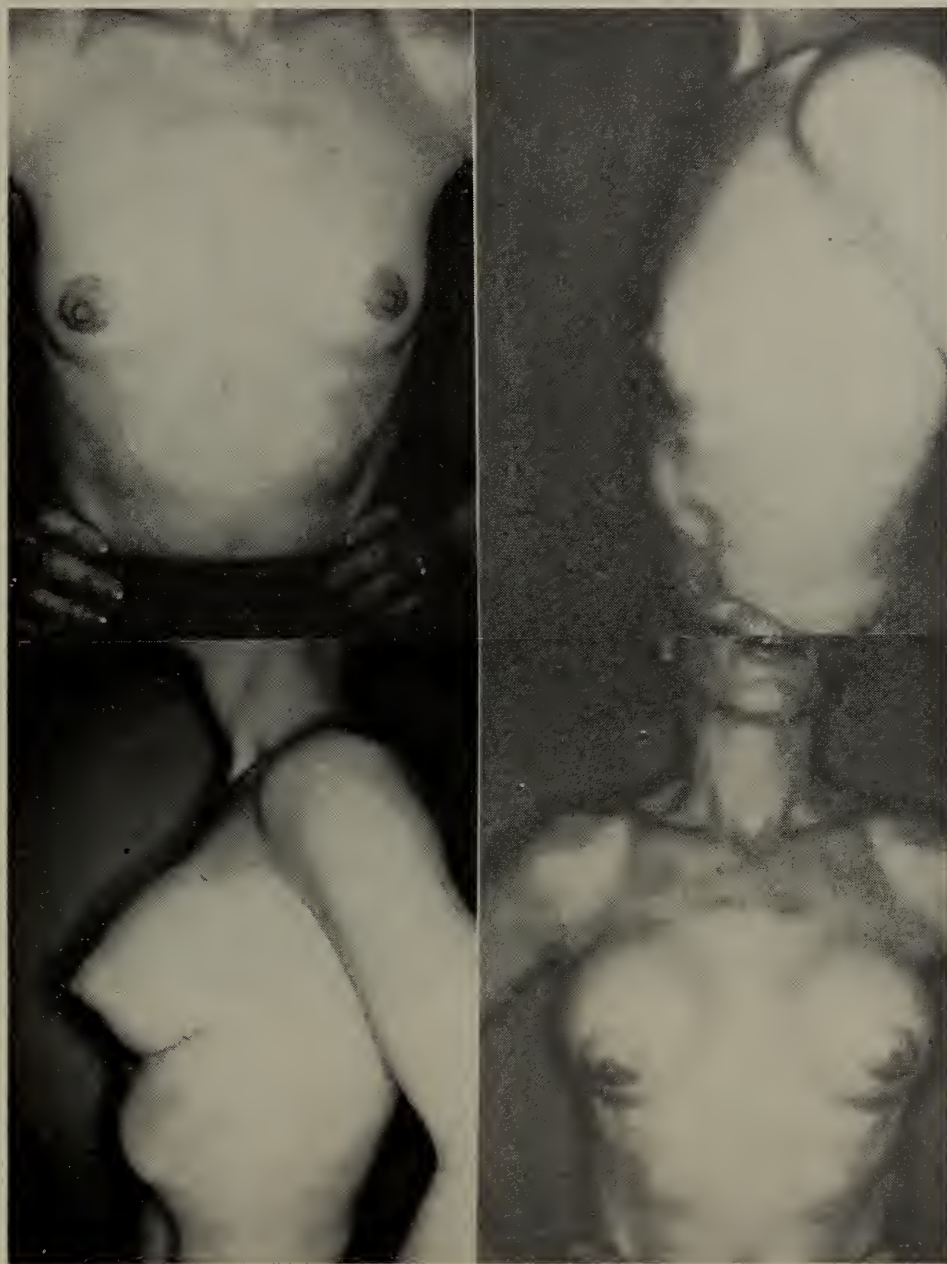


Fig. 3. Result obtained with prosthetic augmentation mammoplasty in a patient with minimal breast tissue.

patients with a small amount of subcutaneous breast fat, the thin amount of remaining skin and subcutaneous fat overlying the prosthesis is usually satisfactory, but the result is more pleasing if a moderate or great amount of subcutaneous fat is present. (Fig. 4)

disease of the breast, satisfactory treatment and total rehabilitation of the patient can be achieved at one operation. The obvious advantages of this technique in preventing the need for multiple operations and solving the enigma of possible future development of carcinoma make it seem worthwhile to be

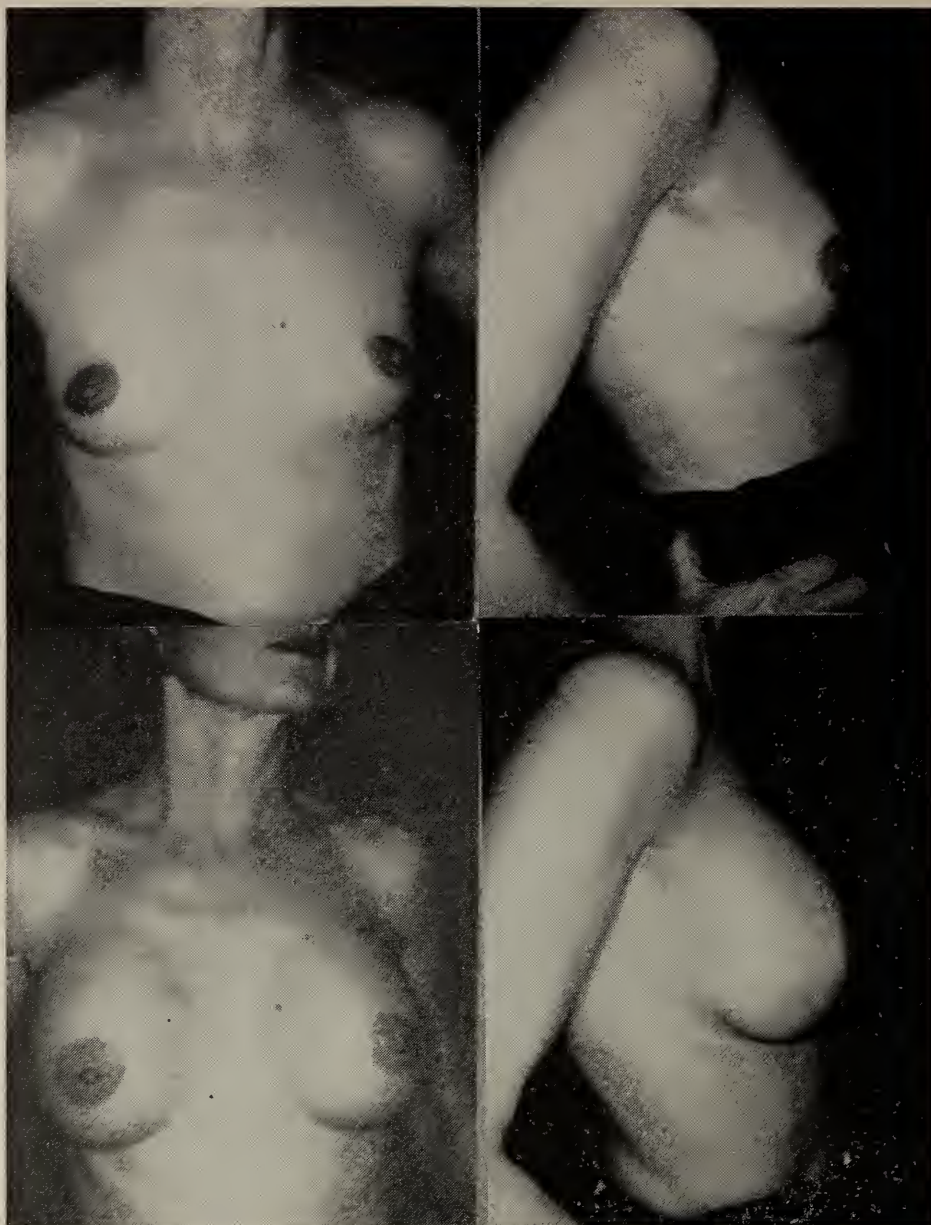


Fig. 4. Result obtained with augmentation mammoplasty in patient with moderate breast tissue.

included in the treatment program of cystic disease of the breast.

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The Complexity of Salivary Gland Disease

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Salivary gland disease, especially when surgical treatment is involved, is a complicated and difficult condition. Three aspects of the problem are discussed which contribute to this situation.

DISEASES involving the major salivary glands comprise an extensive variety ranging from the self limited disorders to the very malignant cancers. This discussion will deal with the surgical aspect of some of these conditions and will center on three considerations.

- I. The relatively low incidence of surgical disease in the salivary system.
- II. The intricate anatomical relationships of the parotid and submaxillary glands.
- III. The unanticipated morbidity of major salivary gland disease.

The Incidence of Surgery

Major salivary gland disease requiring surgery is not a frequently occurring situation.

	1962	1963
Total number of operations-----	13,259	14,097
Number of salivary gland and duct operations-----	15	20

The above figures are from the records of the combined operating rooms of the Medical College of Virginia.

This is a fact borne out by the above

Presented at the Annual Meeting of The Medical Society of Virginia, October 11-14, 1964

table. Approximately one-tenth of one per cent of all operations done during the years 1962 and 1963 in the combined operating rooms of a large general hospital were on the salivary glands and ducts. These 35 operations, performed by dentists, otolaryngologists, general surgeons and plastic surgeons, include ward and private cases.

The Complex Anatomy

The mere suggestion of surgery in the parotid area elicits a thought reflex of the facial nerve. No surgeon who has worked in the region of the facial nerve can circumvent the respect that this anatomical strand demands. The submaxillary gland, though less critically involved with structures as awesome as the seventh nerve, can be bewilderingly difficult to dissect if scar tissue is rampant. Inadvertent injury to the ramus mandibularis marginalis branch of the facial nerve, the lingual nerve or losing the untied stump of the external maxillary artery can cause considerable woe to the patient and the surgeon.

The Unanticipated Morbidity of Salivary Gland Disease

The major salivary glands are attendant to but not a vital portion of the vast digestive apparatus. The salivary system is an accessory detached from the main stream of life and it, therefore, follows that rarely can disorders of this system, excluding aggressively malignant cancer, threaten life itself. Diseases resulting from parenchymal inflammation, cysts, tumors of limited tendency for spreading and obstructions due to stones are predicaments which cause discomfort and a sense of uncertainty if cancer

is suspected. However, in the eventual outcome such conditions are heeded, mainly, by their effect of harassment. This consequence is conducive to a relative lack of urgency in approaching these problems on the part of the physician accustomed to the challenge of the more grave sicknesses. The physician with this awareness foremost in his mind can be lured to regard the salivary derangement with his usually keen sense of discretion slightly blunted.

These three contingencies, inexorably accompanying salivary system disease, combine



Fig. 1. "Schematic drawing depicting direction of flow of saliva from Stensen's and Wharton's ducts."

to hamper the physician and impune his judgment when he is confronted with the task of diagnosis and treatment. To illustrate these circumstances several cases have been especially selected. They have been gleaned from accumulated numbers of salivary gland patients over a ten-year period, 1954-1964, and are derived from private and ward sources.

The Submaxillary Gland

The most frequently occurring surgical disease of this gland and its duct is the cal-

culus. A recent study of salivary calculi was presented from the Mayo Clinic.¹ Of the 180 cases reviewed 80% were submaxillary calculi, 19% were parotid and 1% were sublingual. Why is it that the submaxillary gland is so much more affected by calculi than the parotid?

One likely reason is illustrated by the schematic drawing in Figure 1. This drawing shows that the direction of the outward flow of the two ducts is different. That of the submaxillary duct is a distinct upward flow, against gravity, whereas the parotid flow does not have this force working against it. If one accepts the hypothesis that

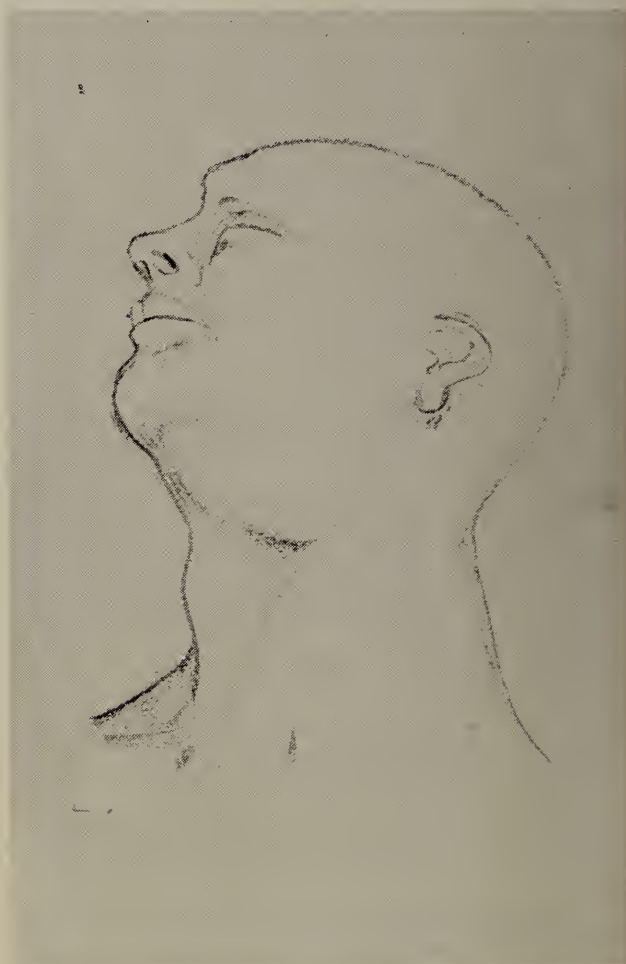


Fig. 2. Sketch of a Negro male with a massive swelling in the left submaxillary space.

one of the requirements for stone formation is stagnation then it follows that in the upright position stagnation due to the force of gravity is more likely in the submaxillary gland than in the parotid. The majority of

stones that occur in the submaxillary duct can be managed by an office procedure consisting of slitting the duct open in its superficial location in the floor of the mouth and removal of the stone with a small ear curet. Those stones that are fixed in the proximal portion of the duct or within the gland substance are usually associated with irreversible parenchymal changes and require removal of the gland.

Case 1

Figure 2 is a sketch of a 55-year-old Negro male who gave a history of progressive fluctuating swelling in his left submaxillary



Fig. 3. Specimen from Case 1. White scarred submaxillary gland enveloping a huge stone measuring 3.4 x 1.4 cm.

region of 18 years duration. This enlargement had been characterized by acute pain on occasion and also fistula formation at various intervals. Two successive needle biopsies showed chronic inflammatory tissue. The ear, nose, and throat resident suspected a calculus but his conjecture went unheeded

and hence no preoperative x-ray was taken. The area was surgically explored and a large fibrotic mass was removed. So dense was the scarring that even the most dependable anatomical landmarks, such as the digastric sling and the mylohyoid muscle, were not identified. Subsequently this proved to be most unfortunate and very nearly cost the patient his life. Several hours after surgery he began to hemorrhage profusely and alarmingly from his mouth. Taken back to the operating room with his airway somehow miraculously preserved, a quick inspection revealed a large tear along the left side of his tongue in the floor of his mouth communicating with the submaxillary space. Bleeding had ceased spontaneously because his blood pressure was nil. Whole blood was started. His neck wound was reopened and a fresh blood clot was found adherent to the stump of a vessel now identified as the external maxillary artery. This stump was ligated, the floor of the mouth injury was repaired and the neck was



Fig. 4. Ranula.

again closed. From that point on recovery was uneventful.

Figure 3 is a photograph of the removed specimen in Case 1.

Comment: The omission of the preoperative x-ray as it turned out did not influence the outcome of this case. The unfortunate oversight of neglecting the floor of the mouth tear at the initial surgery was

the greatest threat to the patient because it opened an unimpeded channel for the sudden rush of blood to his throat. The initial failure to locate the external maxillary ar-

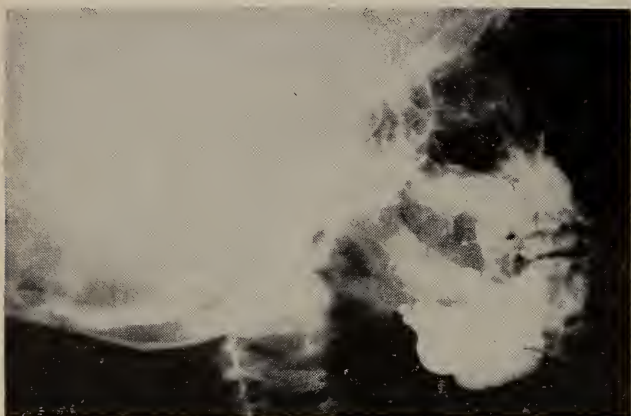


Fig. 5. Contrast media filling a very large ranula involving the entire submaxillary space. From Case 2.

tery was considerably enhanced by the eighteen years of scarring.

Figure 4 is a retention cyst in the floor of the mouth. Retention phenomena in this location are called ranulas. At least two methods of treatment for this condition are advocated. They are (1) excision and (2) marsupialization.

Case 2

Case 2 was a five-year-old, Negro female complaining of difficulty in chewing because of a troublesome swelling in the floor

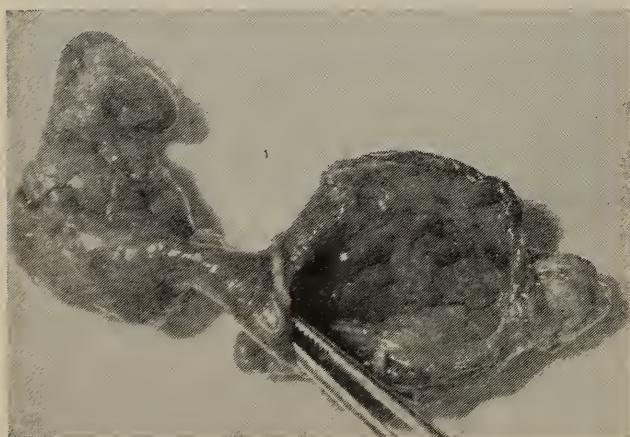


Fig. 6. The opened retention cyst originating from the submaxillary gland (Case 2).

of her mouth on the right side. Before the x-ray study shown in Figure 5 was done this child was subjected to two surgical efforts

attempting correction, each a failure. Marsupialization was tried, initially, but the marsupialized edges became adherent to each other in a short space of a few days, and the condition resumed its previous proportions. The second procedure, an attempted intra-oral excision in like manner, was not successful. It was noted then that the depth of the cyst was seemingly endless, and this observation prompted the informative x-ray study. Through a submaxillary triangle approach the cyst was resected in continuity with the intimately attached submaxillary salivary gland from which it appeared to originate.



Fig. 7. Photograph of a completed superficial lobectomy of the parotid gland. Note the darkly stained deep parenchymal elements which give a contrasting background for the exposed branches of the facial nerve.

Comment: When simple measures succeed in curing a patient, they are preferred to the more complicated endeavors. The misleading factor here was the unexpected extent of involvement of this cyst, the limit of which was finally revealed by the contrast x-ray study. This study showed why

less aggressive surgical efforts had been inadequate.

The Parotid Area

Surgery involving the parotid gland is, first and foremost, surgery of the facial nerve. The surgical exposure of the facial nerve is well understood. The surgeon who is proficient in the parotid area can accomplish this without trepidation. Nonetheless, to augment the security of this important structure, two adjuncts can be utilized that further minimize the chances of injury. One is the use of the nerve stimulator. The other is the practice of staining the parenchyma of the gland with methylene blue.² This is done by injecting 1 cc of methylene blue through the cannulated Stensen's duct (Technique of Rubin et al.)³ immediately before preparing and draping the patient for surgery. When the nerve has been located the main trunk and its branches can be traced with relative ease due to the sharp contrast of the white nerve fibers on the deep blue parenchymal background. (See Figure 7).



Fig. 8. Case 3 free of disease five years after surgery.

At this point it is well to make one further comment which will serve to emphasize the significance of the facial nerve with regard to carcinoma of the parotid gland. Mustard and Anderson render this interesting observation in their review of 79 cases of parotid carcinoma. They state that con-

servative parotidectomy (i.e. preservation of the facial nerve) supplemented by irradiation proved the most successful plan of treatment. Of ten patients subjected to radical parotidectomy with sacrifice of the facial nerve not one was saved despite post-operative irradiation in six instances. They deduced that there appeared to be no benefit in sacrificing the facial nerve. In their conclusion they state, "We now believe that when such drastic treatment appears necessary operation should seldom be advised."

Case 3

The Negro female pictured in Figure 8 was 26 years old when she presented with a small nodule in the right parotid area. It was elected to excise this tumor expeditiously without exposure of the facial nerve. If frozen section examination rendered a benign report the wound was to be closed without further exploration. Subsequently the frozen section was interpreted as a benign cyst and the surgery was duly terminated. However, permanent section revealed, two days later, the true diagnosis as acinic cell carcinoma. True, this is a slowly growing cancer and, admittedly, one compromises when dealing with parotid tumors, simply and solely, because of the facial nerve. Yet in this instance there appeared to be too much compromising. Three weeks later a second procedure was done consisting of a right superficial lobectomy of the parotid. No tumor was found in the second specimen.

Comment: Salivary gland tumor pathology seems to offer difficult problems in identification and this is all the more true when dealing with the frozen section. In many instances frozen section examination of parotid masses has proved unreliable. It would seem, therefore, a wise policy to regard all parotid masses with a suspicion of cancer and proceed accordingly to do adequate surgery initially. This policy would eliminate the false benign report.

Stones in the Parotid Duct

It has been shown that stones are less common in the parotid region than the submaxillary region. As in the submaxillary duct stones in the terminal portion of Stensen's duct are relatively uncomplicated to manage. Stones in the parotid gland are more formidable.

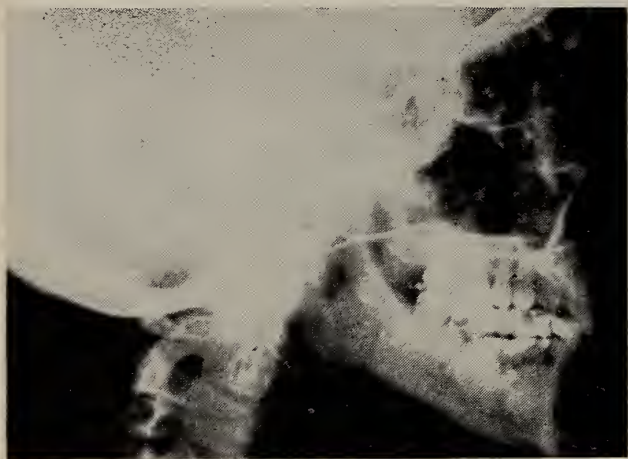


Fig. 9. Sialogram in Case 4 and schematic interpretation below showing stone location more clearly.

Case 4

This patient was a 27-year-old, white female who complained of an inconsistent, recurrent swelling in the right parotid re-

gion. X-ray examination failed to show a stone. Due to the vagueness of her history and the persistence of her complaints she was referred to a psychiatrist. This move resulted in anger as an additional item for her annoyance. A sialogram was finally done and revealed her trouble to be a non-radio opaque stone near the proximal portion of her duct.

This sialogram (Figure 9) shows a break in the continuity of the contrast media in the duct as it emits from the main substance of the gland. On close inspection dilation of the lesser glandular ducts can be noted. This woman was subjected to a superficial lobectomy and was, subsequently, relieved of her complaints.

Comment: The sialogram is a tedious procedure not often resorted to. However,



Fig. 10. The specimen from Case 4 showing the parotid lobe with attached proximal portion of Stensen's duct which has been slit open to show the stone lodged in its lumen.

in this case such a study was essential to the establishment of a diagnosis which proved to be an unusual radiolucent stone.



Fig. 11. Case 5

Case 5

Case 5 was a 57-year-old, Negro male whose obvious swelling had commenced insidiously five years from the date he sought attention. On five or six occasions his family physician, using a trocar had withdrawn, what was described as, brown tinted fluid in copious quantity. The swelling quickly reappeared after each withdrawal.



Fig. 12. The cyst capsule held up by a clamp over the operative field immediately after removal and appears here like a wet paper bag.

At surgery this cystic mass was intimately associated with the facial nerve, and early after exposure of the nerve it began to leak freely.

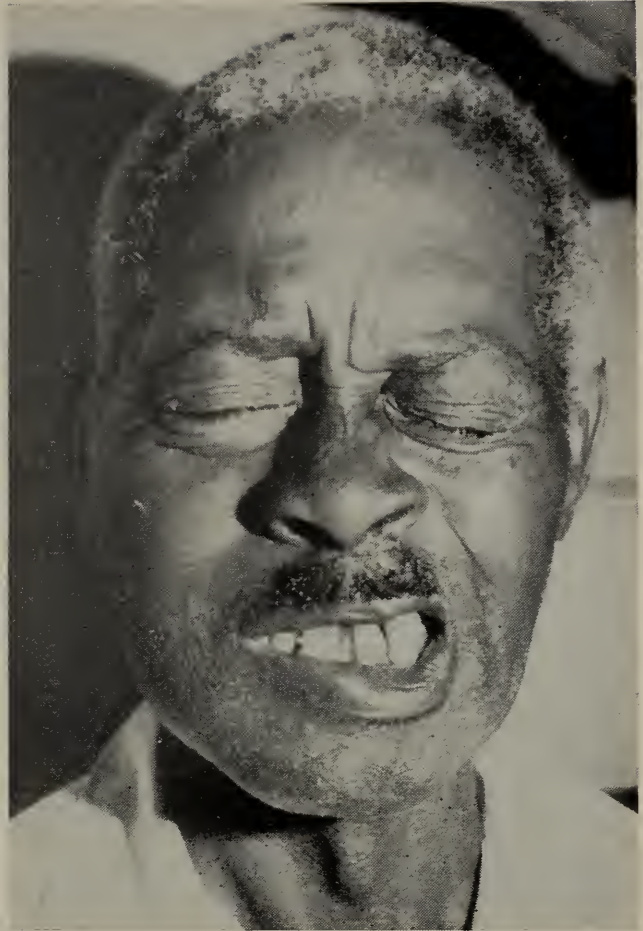


Fig. 13. Photograph of Case 5 four weeks postoperatively. Grimacing expression shows the weakness of his lower face.

Comment: Unfortunately this cyst was deep to the facial nerve. The two main divisions of the nerve were preserved. The more filamentous branches to the zygomaticus and upper lip regions were traced and lost in an entanglement of scar tissue involving the overlying superficial parotid lobe.

Figure 13 shows the postoperative result. At rest his face has good tone, and it is hoped that eventually there will be improvement.

Case 6

This last case is a 17-year-old, white male (Figure 14) who demonstrates a condition which can create considerable anxiety unless it is recognized without equivocation early in the patient's consultation. Figure 14 shows that there is a bulging at the angle of the jaw on the left adjacent to the parotid region that creates a distinct and noticeable



Fig. 14. The face of this boy shows an enlargement in the region of the left parotid gland.

asymmetry. Naturally his parents were concerned. It had become gradually prominent over an indefinite period, perhaps a year. On palpation it gave the impression of being a fleshy mass without a defining border. When the teeth were clenched the soft character of the mass changed to a perceptible firmness, and this, of course, revealed that the protuberance was not a tumor mass but rather a hypertrophic masseter muscle. The diagnosis is unilateral, benign, masseteric hypertrophy.⁵ The important phase in the management of this syndrome is to convince the patient and his parents that this is muscle tissue which is enlarged from excessive contraction. Such a condition can arise in a person of tense temperament and a habit

of grinding the teeth while sleeping. If the physician fails to make a positive and convincing identification of this syndrome unwarranted diagnostic procedures will be done which serve to aggravate an already anxious situation.

Summary

Three factors in the surgical management of salivary gland disease are enumerated and discussed. These factors are listed as:

- I. The relative infrequency of surgical situations in this area.
- II. The complex anatomy of the salivary glands.
- III. The unanticipated morbidity of salivary gland diseases.

Six selected cases are reviewed to illustrate how these factors combine to mislead and hamper the management of salivary gland disease.

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Breast Cancer Prognosis—Evaluation of Long-Term Series of Private Patients

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A series of 191 cases of breast cancer is reviewed and the influence of various surgical procedures on survival is examined critically.

IN THESE DAYS OF CONTROVERSY over the best method of treatment of cancer of the breast² it is well that we review our own results with our own various methods of treatment. Strangely enough, the treatment from a surgical standpoint today will be found to closely parallel the various methods used almost a hundred years ago. Billroth, Volkmann, Güssenbauer, and Küster provided stepping stones which led to the remarkably better results obtained by Halsted⁵ who published in 1894 results of fifty cases operated upon by "the complete method", known since as radical mastectomy. The high rates of local recurrence were tabulated by Halsted, ranging from 85% in Billroth's 170 cases from 1867 to 1876, to 59% in Volkmann's 131 cases from 1874 to 1878.

Halsted goes on to state that "each of the distinguished surgeons whose results I have tabulated recognized the fact that the axillary glands were usually involved, even when they could not be felt, and had made for himself a rule to explore the axilla in almost every case. Volkmann and Güssenbauer were perhaps the first to suggest that

it might be well to explore the axilla in every case, but Küster was the first to advocate the systematic cleaning out of the axilla."

Historically interesting, Halsted further comments, "Everyone knows how dreadful the results were before the cleaning out of the axilla became recognized as an essential part of the operation. Most of us have heard our teachers in surgery admit that they have never cured a case of cancer of the breast. Haynes Agnew stated in a lecture a very short time before his death that he operated on breast cancers solely for the moral effect on the patients, that he believed the operation shortened rather than prolonged life". There are surgeons today who might share some of these historical views, but it is hoped that such a pessimistic outlook is not very prevalent in modern teaching.

The evolution of treatment of cancer of the breast is interesting and well known to physicians and surgeons, from the great contributions of Volkmann, Küster and others to the combining of their experience and his own detailed and tireless efforts to Halsted's famous radical operation. The vast majority of cancers of the breast today are treated in a manner similar to Halsted's operation but many adjuncts have come along. X-ray has played a big part, endocrine ablation and chemotherapy are currently used throughout the world, but there is much to be desired to improve results which have been improved since the pioneers worried about local recurrences rather than complete cures. Until the day comes when cancer can be prevented we will have to deal with it as it presents itself. When it presents itself we have to worry about how far it has advanced. Perhaps one day a chemothera-

Presented at the Annual Meeting of The Medical Society of Virginia, Norfolk, October 11-14, 1964.

peutic agent will be the answer since prevention may remain a dream.

This paper will report the results of a study of 191 cases of cancer of the breast which were treated primarily by radical mastectomy, and which have been followed for at least five years. There were 131 patients with a ten-year followup, 70 with a fifteen-year, and 29 with a twenty-year followup. There were five patients lost to followup of the 191 cases, representing just under 3%. The ages ranged from 27 to 78 and the average age was 52 years. There were 12 patients over 70 and 11 patients were under 35. Of this series of 191 patients treated primarily by radical mastectomy there was one post-operative death, that from pulmonary embolism twelve days after operation. This series of cases dates from September 21, 1936, and was begun by Dr. Carrington Williams, Sr., the patient having had a radical mastectomy for the

compared. Of 191 patients in the five-year group, there were 129 (68%) living for five years, 56 (29%) dead of cancer before five years, five were lost to followup, and one patient died of another cause before five years. Of 131 patients in the ten-year group, there were 66 (50%) living for 10 years, 55 (42%) dead of cancer before 10 years, five were lost to followup, and five patients died of other causes before 10 years. In the fifteen year followup group there were 70 cases. Alive for 15 years were 32 (46%) patients, 31 (44%) patients were dead of cancer before 15 years, two were lost to followup, and five patients died of other causes. In the twenty-year followup group 29 patients were traced. Nine patients (31%) were alive 20 or more years, 14 (48%) were dead of cancer before 20 years, one was lost to followup, and five died of other causes.

Noting the relatively few patients in each group who were lost to followup or who died of other causes, it seemed desirable to have statistics on those patients who either survived in each group or who died of cancer. Therefore in Fig. II the patients who

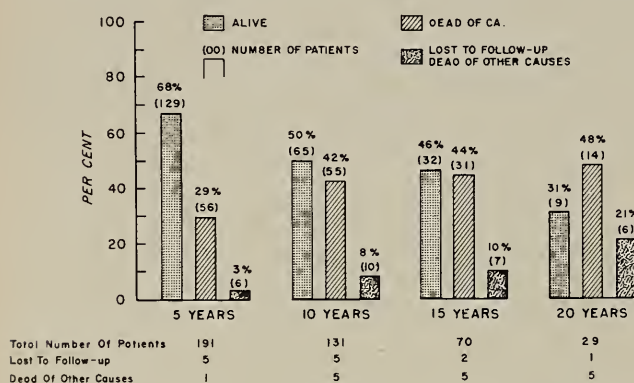


Fig. I

opposite breast in 1942 and is living now at age 73, a 28-year followup.

The criteria of operability in this series were less strict than those of Haagensen⁴ and more similar to those of Halsted, Finney,³ Horsley,⁷ and the Mayo Clinic in 1952.⁶ With the latter group operability depended on movability on the chest wall. Simple mastectomy was performed in some cases for palliation and in poor risk patients, but 35 simple mastectomies in our files were not included in this study.

As noted in Fig. I the five, ten, fifteen, and twenty-year followup percentages are

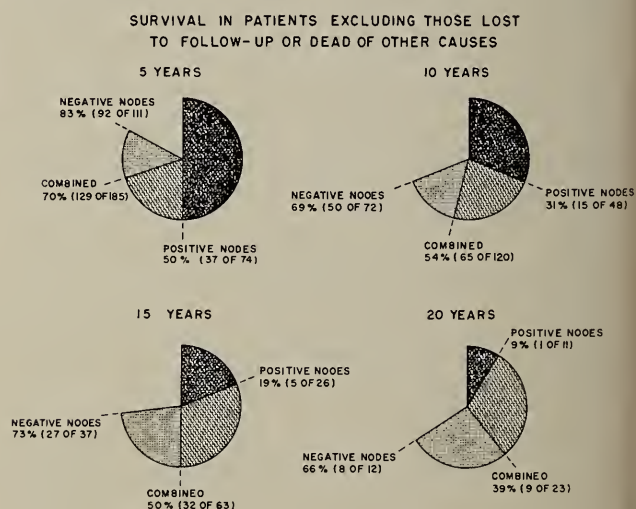


Fig. II

were lost to followup or died of other causes were eliminated and survival percentages are shown for those patients who had positive nodes, those with negative nodes, and for all patients combined. It is apparent that the patients who had negative nodes at the

time of radical mastectomy have a fairly good chance of surviving fifteen or twenty or more years. In those whose axillary nodes were positive the survival rates are greatly diminished as noted in Fig. II and Fig. III. These survival percentages compare very favorably with other reported series.^{3,4,9}

If axillary nodes were found positive our patients were usually given x-ray therapy. It is difficult to be sure that this helps but Klinger and Buffington⁸ studied 396 cases of breast cancer at Geisinger Memorial Hospital and felt that x-ray raised the five-year survival 10% in patients with axillary node

SUMMARY OF PATIENTS WITH POSITIVE NODES					
	Alive	Dead	Lost to Follow Up	Dead of Other Causes	Survival Per Cent
5 yrs.	37	37	1	0	50%
10 yrs.	15	33	2	1	31%
15 yrs.	5	21	0	2	19%
20 yrs.	1	10	0	1	9%

Fig. III

metastases. Harrington⁶ found that in over 7,000 cases traced from 1910 the patients with no nodes involved had a lower survival rate if x-ray was used than those who did not receive it.

In this study it is apparent that our patients usually were treated with radical mastectomy, with x-ray if axillary nodes were found involved, and oophorectomy in fifteen cases, usually for recurrence in some premenopausal and menopausal aged patients. Horsley and Horsley⁷ in 1962 reported five and ten-year survival rates of 72 patients in whom prophylactic bilateral oophorectomy had been performed in the menopausal and pre-menopausal state. They and others have long advocated the oophorectomy immediately following radical mastectomy and consider it is to be a beneficial adjunct. The menstrual history was instrumental in choosing which patients should have oophorectomy. A comparison of our

results in a similarly aged group, up to age 50 is seen in Fig. IV. The survival rates in our patients up to age 55 showed no real deviation from the rates in the comparison. From this comparison of two similar groups of patients operated upon during a concomitant time period and in the same city, realizing that both series are relatively small, one would wonder if oophorectomy is truly beneficial in treating breast cancer in young women. There is certainly much doubt in

COMPARISON OF SURVIVAL RATES IN RADICAL MASTECTOMY WITH PROPHYLACTIC BILATERAL OOPHORECTOMY (HORSLEY) AND WITHOUT (WILLIAMS) IN PATIENTS IN THE PREMENOPAUSAL AND MENOPAUSAL AGE GROUP

	5 Years		10 Years	
	Cases	%	Cases	%
NO NODE METASTASES				
Horsley	31 of 34	91%	18 of 27	67%
Williams	42 of 53	79%	23 of 38	61%
NODE METASTASES				
Horsley	17 of 34	50%	9 of 30	30%
Williams	21 of 37	57%	12 of 25	48%
TOTALS (Overall)				
Horsley	48 of 68	71%	27 of 57	47%
Williams	63 of 90	70%	35 of 63	56%

Fig. IV

the minds of many and further evaluation of larger series of cases should provide the answer.

Byron, et al.,¹ reported in 1962 that bilateral adrenalectomy in advanced breast cancer in 248 cases showed objective remission in 37.7%. They pointed out that Huggins and Bergenstal in 1952 had noted that certain oophorectomized women continued to excrete urinary estrogens and felt that removal of the adrenal glands as well as the ovaries would eliminate all known sources of endogenous estrogens. In our series of cases there are four in which adrenalectomy was done, one of which seems to have been helped and is living with known metastases eleven years since radical mastectomy, almost six years since adrenalectomy. Hypo-

physectomy was performed on one of our patients with no objective improvement.

In summary, an evaluation of 191 cases of breast cancer treated initially by radical mastectomy and followed at least five years (with five cases lost to followup before five years), has been presented. The ten year followup group included 131 cases (with five cases lost to followup). There were 70 cases in the fifteen year group with two cases lost to followup and 29 cases studied in the twenty year group with one case lost to followup. Survival percentages compare favorably with other reported series in which similar criteria of operability were used. It is noted that the chances of survival is greatly diminished in patients with positive axillary nodes, but the chances of survival for fifteen or twenty or more years is fairly good in patients with negative axillary nodes at the time of initial radical mastectomy.

Adjunctive surgery for breast cancer is discussed and a comparable series of premenopausal and menopausal patients is compared with a series of patients in which prophylactic bilateral oophorectomy was performed. This comparison would indicate that concomitant oophorectomy does not necessarily improve the rate of survival.

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Drugs and the Changing Causes of Death

Man's progress in the field of medicine over the last half century has been phenomenal, and the pharmaceutical industry is proud of the part that it has played. It is only necessary to reflect on the significant changes that have come about in the relative position of the leading causes of death at the beginning of that period. Accidents were twenty-eighth on the list of causes of death and now are fourth. Accidents today constitute the leading cause of death among children five to fifteen years of age, whereas rheumatic fever occupied this position fifteen or twenty years ago. Tuberculosis, once "the captain of the men of death," is now seventeenth on the list and will go lower.—Alfred E. Driscoll, President, Warner-Lambert Pharmaceutical Company, in *New England Journal of Medicine*, 270: 6, (Feb. 6) 1964.

The Prognostic Value of the Nerve Excitability Test in Peripheral Facial Paralysis

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The nerve excitability test is a valuable aid in dealing with peripheral facial paralysis. It is used in determining the prognosis. It also is an accurate guide to a treatment program early in the course of the disease.

THE INTRODUCTION of the nerve excitability test and the recent availability of the Hilger nerve stimulator now provide the clinician with a practical and meaningful method of assessing the pathological state of the facial nerve in the early stages of peripheral facial paralysis.

Collier¹ has stated that there are two critical periods in the course of facial paralysis when accurate information of the condition of the nerve is especially necessary to guide treatment and forecast the probability of recovery. The first is the ten-day to two-week period after the onset of the paralysis. It is during this interval that the nerve excitability measurement promises to be a most significant advance in the management of facial nerve paralysis. The second period is from two to three months later when re-innervation may be impending, but before signs of clinical recovery can be found. At this time electromyographic studies are

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invaluable, and the role of electromography in detecting evidence of re-innervation eight weeks before the return of facial nerve function is now well established.

Modern electronic equipment has resolved much of the controversy regarding the value of electrodiagnosis in facial paralysis. Precision instruments are available to measure nerve function quantitatively and have replaced the apparatus used in the time-honored faredic-galvanic test. The value of the nerve excitability test, introduced by Campbell and Richardson² two years ago, lies in its reliability and simplicity, and its most important feature is its ability to detect signs of nerve degeneration three to four days after the onset of the paralysis, before, as stated by Campbell, "the state of the nerve can be determined by plotting of intensity-duration curves derived from affected muscles." The advocates of the nerve excitability measurement contend that the test will differentiate between a conductive block lesion and nerve degeneration within three days after the denervating lesion has occurred.

The importance of having a test which can accurately indicate the extent of nerve damage at an early stage of the paralysis should be emphasized. If the ten to fifteen percent of patients with Bell's palsy who are destined to have a faulty recovery are to be helped, the time for energetic medical and surgical treatment is the period before significant nerve degeneration has taken place. The function of a degenerated nerve can be restored only by regeneration, and

regeneration carries with it disfiguring sequelae when the facial muscles are involved. Prompt detection of serious injuries in the traumatic facial palsies will likewise make possible early definitive treatment and thus increase the probability of improved results.

According to the technique of Campbell, the test is performed by the percutaneous

output impedance (constant current) electronic stimulator, and this procedure is repeated once per second. The indifferent electrode is rather large (300 sq. cm.). The normal side is tested first, and the current intensity (usually between 3-8 milliamperes) needed to produce a minimal contraction is noted. The affected side is then

FIGURE I

Francis McGovern

GRADE	CLINICAL SIGNS	PATHOLOGICAL LESION	TREATMENT	PROGNOSIS
I	Incomplete paralysis Pain absent Normal salivary secretion measurement Normal nerve excitability test	Physiologic block	Reassurance Steroids	Complete recovery
II	Complete paralysis Pain absent Normal salivary secretion measurement Normal nerve excitability test	Physiologic block	Reassurance Physiotherapy Steroids Vasodilators	Complete recovery
III	Complete paralysis Mild pain Abnormal salivary secretion measurement Response to nerve excitability test at increased current	Prolonged physiologic block to partial nerve degeneration	Reassurance Physiotherapy Steroids Vasodilators Stellate block	Complete to partial recovery
IV	Profound paralysis Significant pain Abnormal salivary secretion measurement No response to nerve excitability test Electromyographic Fibrillations of denervation after 14 days	Complete nerve degeneration	Physiotherapy Vasodilators Stellate block Decompression	No recovery or partial recovery with associated movements, etc.
V	Initial mild paralysis progressing to profound paralysis Pain Normal nerve excitability test to later loss of response	Physiologic block progressing to complete nerve degeneration (due to secondary compression of bony facial canal)	Physiotherapy Vasodilators Stellate block Early decompression	No recovery or partial recovery with associated movements, etc.

stimulation of the facial nerve at its exit from the stylomastoid foramen. After small (1 sq. cm.) active electrode is applied to the skin over the nerve trunk behind the angle of the jaw, "the intensity of current necessary to produce minimal visible contraction of the muscles supplied by the nerve is compared with the intensity needed on the unaffected side." A square pulse of one millisecond duration is delivered from a high

stimulated. If the current intensity is approximately the same as on the normal side, a physiological block paralysis is diagnosed; if the muscles respond fully but distinctly require more current, partial nerve degeneration is diagnosed; if the facial muscles fail to respond to very high currents, complete nerve degeneration is indicated.

The test is easy to perform and is not uncomfortable to the patient. The differ-

ence between the affected and unaffected sides is clearly discernible. The earliest sign of degeneration appears three to four days after the onset of the paralysis; a completely severed nerve retains its excitability for that period.

The nerve excitability test is not only of value in prognosis but is also a factor in initiating a rational plan of treatment. In a previous paper we presented a method of classifying Bell's palsy based on the degree of severity of the paralysis. In this plan the clinical signs of mild or profound paralysis were used to dictate the extent of the treatment regimen. The addition of the nerve excitability test makes this program more precise and practical. It can be shown that close observation of the degree of paralysis, the presence or absence of pain, and an evaluation of this electrodiagnostic test will place the clinician in a position to advise his patient with confidence.

The medical treatment of Bell's palsy is based on the neuro-vascular hypothesis in which it is postulated that an ischemic paralysis results from a vasospasm affecting the vasa nervorum supplying the facial nerve in the Fallopian canal usually in its vertical portion. The extent of the subsequent edematous neuropathy depends upon the degree of ischemia; the depth of the paralysis depends upon the amount of edema and the compression factor of the unyielding bony facial canal.

Since Bell's palsy recovers spontaneously in a large proportion of cases, the average physician is inclined to ignore the possibility of incomplete recovery from the paralysis and thereby relegates an unfortunate number of patients to a lifetime of facial disfigurement. Because our present methods of medical treatment are based on theoretical grounds, we may be carried away by the success in treating a condition which often will recover without therapy. Experienced observers agree, however, that medical treatment has much to offer the patient, and the purpose of our classification is to

apply these measures in a manner proportionate to the severity of the paralysis. It is unnecessary to institute vigorous medical treatment if the excitability of the nerve is retained.

To the otologic surgeon the nerve excitability test is of utmost importance, especially in regard to the controversial decompression operation in Bell's palsy. Most experienced otologists agree that decompressing the facial nerve is exceedingly worthwhile in well-selected cases, but disagree about whether the operation should be performed within days, weeks, or months after the onset of the paralysis.

The optimum time for the decompression operation is before significant nerve degeneration has taken place. Decompressing a degenerated nerve may hasten or insure regeneration, but will not prevent the disfiguring sequelae of nerve regeneration.

With the use of the nerve excitability test the surgeon can evaluate the degree of progress of the lesion at a time when the operation may be of greatest help to the patient. By following the course of the facial paralysis by daily testing and combining his findings with the clinical signs of a degenerative lesion, the otologist can advise surgery with more assurance than ever before.

The test can also be of help in the treatment of facial paralysis following head injury. Although spontaneous and complete recovery occurs in 80 to 90% of cases following skull fracture, the nerve excitability test will assist in identifying the few cases likely to need operative intervention. Even those clinicians who advise early exploration of the facial canal in cases of paralysis appearing immediately after head trauma will welcome an additional guide to confirm their surgical judgment, and those clinicians who oppose operative interference in all cases will use this test with new interest. Facial paralysis of delayed onset almost always recovers spontaneously and rarely requires surgery.

In 1963 we investigated the nerve excitability test experimentally, using the furnishing the American medical profession with a splendid constant current stimulator.

FIGURE II

DOG	OPERATION	PARALYSIS*	NERVE EXCITABILITY TEST
1, 2 and 3	Complete section of nerve at stylomastoid foramen	4+	No response after second postoperative day
4, 5 and 6	Complete decompression of fallopian canal	4+	No response after second postoperative day
7	Ligature compression of nerve	4+	No response after second postoperative day
8	Freezing of nerve (liquid nitrogen)	4+	No response after second postoperative day
9	Mild compression of nerve with forceps	1+	No loss of response
10	Compression of nerve by temporary ligature	4+	Partial loss of response
11	Slight compression of nerve by temporary ligature	1+	No loss of response

*Paralysis judged on scale from 0 to 4+.

FIGURE III

BELL'S PALSY	CASES	N. E. TEST	TREATMENT	RESULTS
Grade I	7	Normal response	Medical	Recovery complete
Grade II	10	Normal response	Medical	Recovery complete
Grade III	3	Response to increased current	Medical	1. Prolonged recovery 2. Prolonged recovery with associated movements
Grade IV	1	No response	Medical	80% recovery after 10 weeks
Traumatic paralysis				
Gunshot injury	1	No response	None	Permanent paralysis
Parotid surgery	1	No response	None	Permanent paralysis
Fracture temporal bone	1	No response	Decompression	Paralysis still complete at 8 weeks
Miscellaneous				
Congenital paralysis	1	No response	Exploration	Anomalous course of nerve in facial canal

Tecca variable pulse generator and chronaximeter as a constant current stimulator. Eleven dogs were operated upon; the result of this study is recorded in Figure II.

When Hilger³ introduced his facial nerve stimulator (Fig. IV), we immediately realized the significance of his contribution in

The result of our clinical experience with this instrument is listed in Figure III.

Summary

The nerve excitability test provides a precise electrodiagnostic technique capable of

distinguishing a degenerative lesion of the facial nerve from a physiological block paralysis. The test is important in predicting the chance of recovery, since it is known that block lesions will recover completely

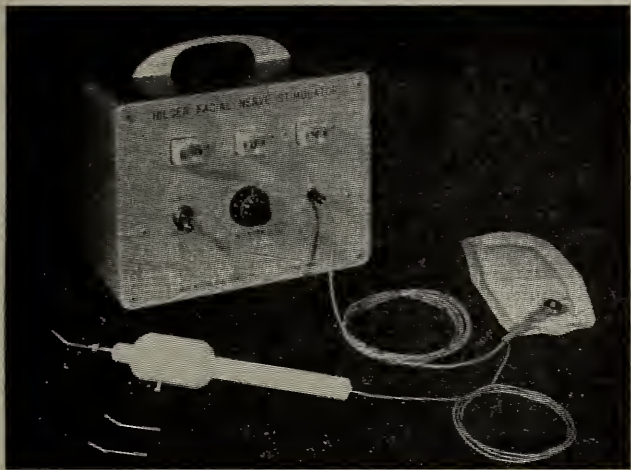


Fig. IV

and degenerative lesions will recover not at all or only in part.

The nerve excitability test is also an accurate guide to a treatment program at a time when treatment is likely to be most effective.

The test is simple and without discomfort to the patient. It foretells nerve degenerative days before this information can be obtained with the use of any other electrodiagnostic method.

Our laboratory and clinical experience confirmed the findings of Campbell and his associates. In cases seen during the early days of facial paralysis, we found the nerve excitability test a reliable guide in prognosis.

If the test is used in conjunction with the plan of treatment advocated in Figure III, in which the disease is divided into five categories determined by the degree of edema and destruction of the nerve, the clinician can expect a recovery rate in excess of the currently accepted figures.

The importance of serial testing of the nerve excitability is emphasized in Grade V paralysis. We believe that an early mild paralysis that suddenly progresses to a profound paralysis without response to the nerve excitability test indicates the factor of secondary compression of the bony fallopian canal on the edematous nerve. These cases of late degeneration of the nerve and poor recovery have been noted by Campbell.⁴

Conclusion

The nerve excitability measurement is a new electrodiagnostic test useful in the prognosis and treatment of facial paralysis.

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A Review of the Literature Concerning Smoking During Pregnancy

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There is evidence that cigarette smoking during pregnancy retards the growth of the fetus, probably by the action of nicotine directly on the placenta and the fetus.

ARTICLES first exhibiting concern of cigarette smoking during pregnancy began to appear in the literature in 1935. Since that time, there has been a gradual increase in the interest of this subject, and greater emphasis regarding investigation, both clinical and laboratory.

Of the many constituents in cigarette smoke, nicotine is the most pharmacologically active. A single cigarette yields 6-8 mgms. of nicotine, of which 8-98% is absorbed, depending upon the depth of inhalation, type of tobacco, and moisture content. Nicotine causes a transient stimulation of all sympathetic and parasympathetic ganglia, rapidly followed by a more persistent depression. It also causes a release of epinephrine from the adrenal medulla. Cigarette smoking has been shown to cause peripheral vasoconstriction, as evidenced by decreased skin temperature of the digits. Also, there is a significant change in the systolic and diastolic blood pressure, heart rate, and cardiac output. The cardiovascular effects of smoking are more marked in women than men.

In 1908, Robinson stated he had studied the abortive effect of tobacco among wom-

en in the Orient and found no significant effect. Cushny found that injection of nicotine in the rabbit whose hypogastric nerve was severed caused a tonic contraction of the uterus with pallor and constriction of vessels.

In 1931, Mgalobelli reported that women who worked in tobacco factories had fewer pregnancies, more abortions, and an increased infant mortality rate.

Since little was known about the transmission of nicotine across human placental membranes, and because of the greatly increased use of tobacco among women, Sontag and Wallace in 1935 investigated the effect of cigarette smoking during pregnancy upon the fetal heart rate. They showed a definite increase in the fetal heart rate shortly after the mother began to smoke a cigarette, and they concluded that some toxic agent, probably nicotine, crossed the placenta to the fetus and that a careful study of the newborn offspring of mothers who smoked heavily during pregnancy was indicated. Also, in 1935, Campbell thought there was sufficient evidence at hand to warrant the strong assumption that chronic nicotine poisoning such as results from the smoking and inhaling of 18-25 cigarettes a day was prejudicial to efficient childbearing, and that it impaired the integrity of the nervous system, interfered with nutrition, predisposed to respiratory infection, and had an unfavorable effect on the circulatory system. In 1936, Campbell again sounded the alarm regarding smoking during pregnancy feeling that the maternal organism, already overworked by the physiologic demands of pregnancy, must surely suffer from the absorption of such a poison as nicotine, and

that it was the responsibility of every physician to warn the young women of this country of the dangers which attend excessive indulgence and of the susceptibility of many to the toxic effect of nicotine.

In 1936, Schoeneck, Syracuse University, resorted to animal experimentation by undertaking a series of experiments to demonstrate the influence of cigarette smoking on the offspring of rabbits. From the data obtained it seemed reasonable to conclude that the offspring from the female rabbits subjected to smoke were smaller at birth (by 17%) than the controls; the stillbirth rate was 10 times as great; and the mortality rate was definitely increased. In general, the offspring from the smoked litters were underweight in comparison with the controls. Consequently, it was thought that exposing pregnant rabbits to the smoke of one cigarette a day resulted in apparent deleterious effects on the offspring, and was admittedly a far cry to cigarette smoking in pregnant women, but perhaps these findings would serve as more than a passing interest.

In 1945, Hudson and Rucker found of 589 women at term, 35% were smokers, while of 56 women who aborted, 68% were smokers.

Bernard, in 1949, made comparative observations in the course of 20 years on 458 women who were habitual smokers and on 5,000 women who did not smoke, and found that disorders of the thyroid, menstrual disorders, premature menopause, and pre-eclampsia were much more frequent in smokers than non-smokers; he found that absorption of nicotine, through stimulation of the smooth muscles of the uterus, the tubes, and the ligaments, could lead to contractions of these organs, which he called "genital sensations and tubal cramps".

In 1952, Doerfel confirmed the stimulating effect of nicotine on the fetal heart rate as previously noted in 1935 by Sontag and Wallace. Thusly, it seems that nicotine passes especially readily through the placenta and may possibly destroy the tissues of the

fetus during the actively dividing phase. There has also been well established evidence that nicotine is secreted in the breast milk of smoking women, and mainly through animal experimentation, it has been shown that nicotine inhibits lactation, reduces litter size, and increases mortality during the nursing period.

In 1957, Simpson, in California, carried out a preliminary study with human subjects to ascertain the nature and degree of relationship between cigarette smoking and the incidence of premature infant birth, and at the same time attempt to determine the interrelationship of these factors and other relevant variables such as age, parity, race, and socio-economic status. The premature was defined as usual, 2500 gms. or less at birth; multiple births were excluded; light smokers were those smoking from one to ten cigarettes per day; and heavy smokers were those smoking more than ten cigarettes per day. The report covered a period of three years and data gathered from 7,499 patients, and showed the prematurity rate in smokers to be twice that of non-smokers and that the prematurity rate increased with the number of cigarettes smoked per day.

Also, it was found that the prematurity rate was higher in the county hospital non-smokers than in the private hospital non-smokers, and that perhaps such factors as poor nutrition, higher incidence of unwed mothers, and a lack of prenatal care were contributing factors.

In 1959, Lowe reported in the British Medical Journal the results of an inquiry into the effect of smoking upon pregnancies of 2,042 women. The following situations were noted: (1) Infants of mothers who smoked regularly throughout pregnancy were on the average more than six ounces lighter than infants of those who never smoked during pregnancy and the mean weight of infants of heavy smokers was less than that of infants of light smokers. (2) Since intravenous nicotine was known to release anti-diuretic hormone, which

could be found in human urine after smoking, it was thought not impossible that smoking might have an oxytocic effect by posterior pituitary secretion of oxytocin, thus the possibility of the shortening of the duration of gestation was investigated, and there was no substantial difference between duration of gestation of smokers and of non-smokers. (3) There was no difference between weights of infants of non-smokers and of women who gave up smoking early in pregnancy and who did not begin smoking again, and this was thought to suggest that the influence of smoking upon birth weight may possibly be greater during the second than during the first half of pregnancy, but the numbers of these type patients were rather small. (4) The maternal weight was also investigated and considered an insignificant factor since the birth weight for both smokers and non-smokers increased regularly with maternal weight. (5) There was nothing to suggest that cigarette smoking was related to complications of pregnancy; the incidence of toxemia and of ante-partum and post-partum hemorrhage was much the same for smokers and non-smokers. (6) When stillbirths and deaths within the first 24 hours were grouped together, the mortality among the infants of smokers was a little higher than among those of non-smokers, but it was felt this could easily be a chance defect.

In 1961, Frazier, et al., reported on a study of 2,736 pregnant Negro women who were interviewed prenatally and followed throughout pregnancy from the Baltimore City Health Department and showed a definite association between cigarette smoking and prematurity. They found the prematurity rate for smokers was 18.4% as compared to 11.2% for non-smokers and again, as had been previously demonstrated, found the rate of premature birth increased with the amount smoked. Also, it was felt that this difference was independent of maternal age, blood group type, initial hemoglobin level, sex of child, work history, education,

and psychosomatic complaints. They suggested the possibility that smoking might reduce maternal appetite to the extent that it would manifest itself in reduced weight of the newborn infant, and also the possibility that vasoconstriction caused by smoking might have an appreciable effect on fetal nutrition through a decrease in the blood supply reaching the intervillous space. In summary, the evidence presented in this study was generally consistent with that of retrospective studies conducted in California by Simpson and in England by Lowe, which were discussed previously.

In September, 1961, Haddon, et al., investigated the blood carbon monoxide concentrations, and the data confirmed the findings of others that smoking significantly elevates the blood carbon monoxide concentration. At term the blood carbon monoxide concentration in the maternal circulation and umbilical vein are approximately equal, and since these are equal, and since the hemoglobin concentration of the fetal blood is higher than that in the maternal blood, the carbon monoxide carried per gram of cord blood was less than that in the maternal circulation. These facts suggested that the increased carbon monoxide uptake resulting from smoking should be considered as at least one possible contributor underlying the smoking associated with reductions in birth weight; the possibility of chronic exposure to increased carbon monoxide may stress fetal hemostatic mechanisms. Consequently, since carbon monoxide is found in significantly higher concentration in the peripheral blood and cord blood of pregnant smokers than in non-smokers, and because hemoglobin has a much greater affinity for carbon monoxide than for oxygen, there is reduced oxygen-carrying capacity with less oxygen available to the fetus.

I repeat, in all three investigations thus far, the effect of smoking on birth weight appeared to increase with the number of cigarettes smoked. The difference in length of gestation, 1.4 days in England, and 0.3

weeks in Baltimore, was not considered significant. Neither Lowe nor Frazier found the sex ratio of babies from the two groups of mothers to be significantly different. Lowe showed that the relation between cigarette smoking and birth weight did not depend on the age, body weight, or parity of the mother; Frazier similarly found it independent of the age or education of the mother or whether she worked in early pregnancy.

In April, 1962, Herriot, et al., conducted a study on 2,745 patients delivered in the Aberdeen Maternity Hospital between December, 1959 and November, 1960. The significant findings were as follows: (1) The incidence of smoking increased with parity. (2) In the babies of mothers who smoked, the mean birth weight was lower, and the prematurity rate higher, than in the babies of mothers who did not smoke. (3) Smokers had a slightly shorter gestation period. (4) The most obvious effect from smoking is peripheral vasoconstriction with some hypertension along with a reduction in appetite, but in this study the gain of each group was similar and suggested that maternal food intake was not affected; it seems most probable that fetal growth is depressed by an immediate effect of smoking on the placental circulation, either through vasoconstriction affecting the uterine blood flow, or through some more direct toxic influence.

In September, 1962, Savel and Roth investigated the smoking habits of 1,415 obstetrical patients, and again emphasized the principle effect of smoking in pregnancy seemed to be on the weight of the baby; the more the mother smoked, the smaller her infant. The onset of labor was slightly earlier in the smokers than in the non-smokers, but the number of cigarettes smoked per day did not seem to influence the true onset of labor, but did seem to affect the birth weight of the babies. The smallest babies were born to women who smoked over 20 cigarettes a day. Twice as many

babies, premature by weight (2,500 gms. or less), were born at term to women who smoked 20 or more cigarettes per day than to light smokers, and about four times as often to women who smoked 20 or more cigarettes per day as to non-smokers. Fetal wastage, stillbirths, and neonatal deaths seemed uninfluenced by the smoking habits of the mothers. In conclusion, the inference from this study was that smoking produces some retardation of fetal growth rather than causing immaturity resulting from an earlier onset of labor.

In April, 1963, Zabriskie reported on the study of 2,000 consecutive single births of 957 smokers and 1,043 non-smokers the following findings: (1) Women who smoke have infants weighing an average of 229 gms. (8 ounces) less than those of non-smokers. (2) The prematurity rate is $2\frac{1}{2}$ times higher among infants born to women who smoke, 9.93% as compared to 3.8%. (3) Women who smoke have a slightly higher incidence of abortion, 12.6% as compared to 8.8%. (4) No appreciable difference was found in the age, parity, blood pressure, pulse rate, weight gained, or incidence of toxemia among smokers and non-smokers. (5) The difference in birth weight according to duration of smoking is not highly significant, and it appeared the effect of smoking upon the fetus was the result of smoking during the pregnancy, rather than due to long term or chronic change. He again emphasized very strongly that the effect of cigarette smoking upon the fetus may be due to altered blood supply to the placenta, and this certainly substantiated previous thoughts and findings. In addition, he suggested that in selected cases, for example, those with habitual prematurity or with repeated abortions, abatement of smoking certainly seemed advisable.

In August, 1963, O'Lane reported on a group of 1,031 women, 566 non-smokers and 465 smokers, from the U. S. Naval Hospital, San Diego, California. The three following important questions were con-

sidered: (1) Is the difference due to a shortening of gestation in smokers, that is, do smoking mothers deliver earlier than non-smokers? (2) Is the smaller weight due to retarded skeletal growth of the fetus, or only due to reduced adipose tissue? (3) Is the smaller weight of smokers' babies due to reduced maternal food intake, or mediated by some placental factor, such as, vasoconstriction of uteroplacental vessels? His findings confirm very strongly those previously mentioned, and were as follows: (1) Babies born of smoking mothers are significantly lighter in weight than those whose mothers did not smoke; the premature weight was over twice as frequent in the smoking group, 11.9% as compared to 5.1%. (2) The smokers' babies averaged 0.5 inches less in crown-heel length than did the non-smokers' babies, thusly, the reduction involved both length and weight. This would seem to be a more significant effect on the fetus than just weight reduction alone, which might represent merely a lessening of fetal adipose tissues. Consequently, the exact reason as to the difference found in fetal size could not be totally explained. (3) It was not felt that the reduction of fetal size was related to a lessening of maternal food intake because of a possibility of anorexic effect of tobacco, since there was no significant difference in the maternal weight gain during pregnancy. (4) There was no significant difference in the length of gestation between the two groups. (5) The group of smoking mothers had a statistically greater incidence of abortion than the non-smoking group. (6) The Apgar scores of the smokers' babies were somewhat less than those of the non-smokers, 8.6 to 8.2. (7) There were no significant differences in the placental weights or fetal and perinatal death rates.

Very recently, in September, 1963, Frazier, of Baltimore, presented a paper at the Conference on Research Methodology and Needs in Perinatal Studies in Chapel Hill, North Carolina, and stated that since 1957 when Simpson's paper appeared there have

been at least nine studies concerned with an association between cigarette smoking during pregnancy and infant birth weight. At the present time the retrospective studies outnumber the prospective studies six to three. There was clear cut consistent evidence from these studies regarding the results with respect to decreased birth weight for infants of women who classified themselves as cigarette smokers during pregnancy. In a review of the Baltimore City Study he made the following comments: (1) Relatively few women changed smoking habits during pregnancy. (2) In women who were non-smokers before pregnancy and continued to be non-smokers, the prematurity rate was 11.2%. (3) A similar rate was observed for the 154 women who smoked before this pregnancy but for some reason discontinued smoking during pregnancy. (4) Only 59 women became cigarette smokers during pregnancy and for this group the prematurity rate was 13.6%. (5) Among women who smoked before and during pregnancy the rate of premature births was 18.6%. (6) Incidence of prematurity increased with the amount smoked from a low of 11.1% for the infants of non-smokers to a high of 22.9% for the infants of women who at the time of interview smoked more than a pack of cigarettes daily. (7) The mean duration of pregnancy for women who smoked was 38.4 weeks as compared to 38.7 weeks for the non-smokers. (8) There are definitely emotional differences between smokers and non-smokers, and based on a psychosomatic complaint score the rate of prematurity was significantly greater for both the "normal" and "nervous" groups of smokers; however, the "nervous" smokers have a significantly higher rate of prematurity (23%) than the "normal" smokers (16.9%). (9) In appraising the results of the Baltimore study two possibilities were suggested: The first was that smokers and non-smokers are really different types of people and that another manifestation of difference is in the birth weight of their infants; the second possibil-

ity was that smoking during pregnancy has a direct effect on birth weight. For example, smoking might reduce maternal appetite to the extent that the weight of the newborn infant would be decreased, and another possibility was that vasoconstriction caused by smoking may have an appreciable effect on fetal nutrition through a decrease in the blood supply reaching the intervillous space. (10) He also commented that there was a good chance that the data now being collected and analyzed by the National Institute of Neurological Diseases and Blindness through their sponsored Collaborative Project would provide an answer more specifically to some of these questions.

Finally, I would like to quote the comment made by Dr. Nicholson Eastman in the Obstetrical and Gynecological Survey, February, 1963, in reviewing the study conducted by Savel and Roth: "The conclusion reached by the authors seems warranted in view of the overall data reported. It would be noted also that the neonatal death rate appeared to be uninfluenced by smoking. This suggests that the smaller babies of smoking mothers behaved like mature babies from the viewpoint of survival. All studies dealing with this problem have consistently reported a lower birth weight for the newborn of smokers. Does this mean that the nicotine that doubtless passes to the fetus retards growth? Is so, this must be injurious in some degree and obviously would be a matter of concern. On the other hand, does smoking simply reduce the appetite of the mothers and so cause smaller babies through a diminution in caloric intake? This, it seems to me, is the crucial question to be settled."

However, since the above comment by Dr. Eastman, both Zabriskie and O'Lane, as previously stated here, have thoroughly and as accurately as possible investigated the weight gain in both smoking and non-smoking pregnant mothers and were unable to find any significant difference. This was also investigated and emphasized by Lowe

in his report in 1959 and again by Herriot, et al., in 1962. All have concluded very strongly on their evidence that the reduction of fetal size was not related to a lessening of maternal food intake because of the anorexic effect of tobacco. So already, perhaps, for the most part, Dr. Eastman's crucial question has been settled, leaving only the probable but poorly understood result of retardation of growth due to the effect of nicotine.

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Mental Health

Recommendations of the Virginia Mental Health Study Commission

SAM CAREY

The following excerpts from the Commission's final report cover the recommendations made in regard to long range planning and goals for Virginia's mental health program.

Proposed Long Range Plan

The Virginia Mental Health Study Commission was charged with the responsibility of surveying the mental health situation in Virginia with regard to existing facilities, resources, problems and needs and of making recommendations to the State Mental Health Authority for the improvement of existing services and development of more adequate and effective mental health services to the people of Virginia. Implicit in this assignment of responsibility was an examination of the practicability and feasibility of a shift in concept from the large, state supported institutions as the major center of treatment for the mentally ill to a well coordinated and interrelated system of Comprehensive Community Mental Health Services oriented to the local treatment of patients.

As indicated in the conclusions and recommendations submitted in the body of its report the Commission believes that action toward such a goal is not only feasible, but desirable in terms of the probability of earlier treatment availability, a coordinated range of local services and the therapeutic and economic advantages of treatment of the patient in home surroundings.

In addition to recommendations for specific actions required to move toward this objective, the Commission was also charged

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Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

with the function of submitting to the State Mental Health Authority a long range plan for the realization thereof. The recommendations of the Commission in this regard follow:

Long Range Goals

Based upon the most authoritative information available at this time, a Comprehensive Community Mental Health Center should be available for service to a maximum of 200,000 persons. It should be centrally located within its service area and easily accessible in terms of transportation facilities. It should provide to all people within the area a broadly coordinated spectrum of services including the following essential elements:

- a. Inpatient services
- b. Outpatient services
- c. Partial hospitalization services
- d. Emergency services 24 hours a day
- e. Consultation and education services

Additional elements of service which are highly desirable are:

- a. Diagnostic services
- b. Rehabilitative services
- c. Pre-care and after-care services in the community
- d. Training
- e. Research and evaluation

The components of these centers must be adequately staffed and manned by psychiatrists, psychologists, psychiatric social workers, psychiatric nurses, occupational and recreational therapists, attendants and aides, administrative personnel and volunteer workers.

Although the "centers" are so named as a concept, rather than as a physical structure, Federal matching funds are available for a limited period of time to meet part of necessary construction costs for central buildings or for essential component ele-

ments of the center. It is understood that the Federal Government is also considering matching funds on a four year reducing scale to assist in the operating costs of such facilities.

Based upon these criteria, the Commission believes that the ultimate goal of Virginia should be a network of these Comprehensive Community Mental Health Centers developed in a minimum of 30 locations within the State to meet the needs of an expected population of approximately 6,000,000 people in Virginia by 1980. In the implementation of this policy, existing facilities, including those of community hospitals, should be utilized to the maximum extent possible. Development of new services in any area should be planned so that these may readily become components of the ultimately developed center.

Since it is expected that in many localities community hospitals will be the only source of inpatient service it is believed that a goal should be set that, by 1970, all general hospitals of 100 beds or more will have set aside specific beds and space as designated psychiatric wards.

The Commission recognizes the formidable obstacles to be overcome in attaining the above goals. First and foremost is of course the acceptance of the citizens of Virginia of the concept of community care and treatment. The most absolute limiting factor is the present lack of personnel in all categories. An unknown factor is the required size of the components of such centers. These could, of course, vary greatly depending upon the range, quantity and quality of service rendered. Nowhere in the United States is there a precise pilot model from which such experience can be gained.

However, the Commission recommends that the state proceed toward this goal. Planning should be divided into five year periods with the objective outlined above to be arrived at in 15 years unless circumstances or experience indicate otherwise. All planning must be flexible with provision for change provided.

Plan for Action

Specifically, the Commission proposes that the following plan for action be adopted for the initial period from 1965 to 1970 with detailed provisions extending two years into the future.

1965-1966

1. The Department of Mental Hygiene and Hospitals organize a Division of Planning to conduct planning responsibilities assigned to that Department in the general recommendations of the report. All staff records of this commission will be transferred to this division.
2. The Director of Planning for the Department organize and institute methods for coordination and communication on the state level with opposite numbers in all interested state departments, state level associations and those agencies charged with state administration of the various Federal Aid Programs then in existence.
3. The Director of Public Information of the Department of Mental Hygiene and Hospitals, coordinating closely with the Director of Planning, develop and execute plans for methods of increasing public knowledge, awareness and acceptance of mental illness and associated problems.
4. The Directors of the various services of the Department, in coordination with the Planning Director, develop and implement plans for the recruitment of personnel to enter the several professional disciplines and the educational programs for training of mental health personnel.
5. The Director of Planning seek to determine the level of local interest in immediate implementation of the mental health center concept in those areas which can potentially join together the required services and assist

as practicable those areas which desire to proceed at best speed.

6. The Director of Community Services, in coordination with the Planning Director, develop a practical plan for the expansion of clinic services centered on the proposition that existing and newly developed clinic services should be considered a nucleus for the development of a fully effective center.
7. The Commissioner of the Department of Mental Hygiene and Hospitals designate one state hospital as a host activity to a Comprehensive Mental Health Center for a specified area.
8. The Director of Planning, coordinating with the Superintendent of this state hospital and with local authorities and citizens of the area selected, encourage local planning for the implementation of such center.
9. The Director of Operational Research, in coordination with the Planning Director, set up data collection programs and evaluation procedures for use in assessing the efficacy of established center programs as well as those needed to improve the reporting procedures of existing services.
10. The Director of Planning, in conjunction with local officials, interested groups, and necessary departmental officials assist in planning for the utilization of the facilities available at the new Northern Virginia Hospital for establishment of a mental health center for the area.
11. The Planning Director review Regional Study Group Reports collected by this Commission and other data available to determine special problems existing in the state or in particular area thereof which can be corrected by local action and, through coordination with local planning groups, encourage action thereon.
12. The Department of Mental Hygiene and Hospitals, and other departments and agencies of the state implement as practicable those recommendations of the Commission within their purview. This should be a coordinated action.

1967-1970

1. Continue action as above on information, personnel, other administrative matters and the implementation of recommended actions.
2. Continue development of the clinic system.
3. Gain operational experience and data from such mental health centers as may be in operation from the initial two year planning effort.
4. The Director of Planning, in conjunction with responsible Departmental personnel, local citizens planning groups, professional personnel in the centers and others as necessary regularly assess the operations of the centers and other facilities in the state with a view toward determining the effects of the programs one on the other.
5. In the course of this three year period, and as warranted by local interest and the assessment of the mental health centers program, the Director of Planning, coordinating with local planning groups and Departmental personnel, submit recommendations to the State Mental Health Authority as to the development of additional center facilities or other services.
6. By June 30, 1970, the Planning Director, in consultation with departmental personnel and the Commissioner of Mental Hygiene and Hospitals, make recommendations to the State Mental Health Authority for actions to be undertaken during the second five-year planning cycle, with reassessment of long-range goals as

warranted by evaluation of the effects of the first five-year plan.

Priorities

The Commission, on the basis of information gained during the study, desires to set forth the following priorities with relation to programs:

1. The development of a public information program designed to educate the public and enlist its support of the goals and plan set forth above. The Commission is firmly convinced that without the full support of the citizens of Virginia no planning can be completely effective.
2. The development of a fully effective program designed to insure coordination and communication of all departments, agencies and local bodies to be involved. This must be established for the purpose of informing all levels of concern of the needs, the goals and the importance of programs.
3. The development of personnel and training programs to insure future adequate support of planned facilities.
4. The development of a full range of service available to all people in the State. Emphasis should be placed upon the preventive and early detection aspects of the services.

In the matter of the development of new services and facilities, the Commission reiterates its stated conclusion that the direction of movement should be toward a network of community mental health centers based upon a concept of a full range of coordinated services available to all persons at the community level. Construction of facilities to house these services should be undertaken on local initiative. In establishing such centers, first emphasis and priority should be placed on the community development of necessary services. Other approaches which might also be considered include those contained in the Recommen-

dations of the Commission regarding the utilization of the Planned Northern Virginia Hospital and the possible use, within a given local area, of the facilities of a State Mental Hospital.

As was noted in the basic recommendations of the report six localities appear to have the potential for local development of a center. The Commission is aware that the administration of the Mental Health Centers Construction Act is a responsibility of the Department of Health. It has no intention of attempting to circumvent prescribed procedures of planning by this body. However, for consideration, it suggests that, in the event construction funds are applied for, the following priorities expressed by the Commission may be of some benefit:

1. Norfolk—The need of Norfolk is reasonably well established with relation to other areas by its Regional Report. In addition, there appears to be a clear and undivided unanimity among local planning authorities as to the desirability thereof particularly as a regional facility. Planning is in an advanced stage and, in view of the cut off date of first year construction funds, this area may well be the only one able to meet deadlines.
2. Richmond and/or Charlottesville—Both of these areas have existing facilities sufficient to form the essential services if proper administrative procedures, cooperation and coordination among these units can be developed. In relation to need, on the basis of state hospital data, Richmond has a higher incidence of mental illness.
3. Hampton-Newport News—Again the need is present and the regional report recommends establishment of a center. In this connection, the local chapter of the Virginia Association for Retarded Children has announced plans for a center for the handicapped which might well include the essential

services of a center. Other facilities also exist which might be utilized.

4. Northern Virginia—Recognizing the low incidence of mental illness as reflected in State Hospital data, acknowledging the high civic interest in mental health and the comparatively excellent services already available in the area both of which undoubtedly contribute to the low rate, the Commission regretfully recommends a lower priority to this area vis-a-vis the above areas. However, it feels that the proposed plan to utilize the facilities of the Northern Virginia Hospital as a center will compensate to some degree this priority. It recognizes that the population of the area warrants at least three mental health centers and that, personnel wise, the area might well be in a superior position to other areas in this regard.
5. Roanoke—Lowest priority is given to this area solely on the basis of the judgment of the Commission that local planning has not progressed as

in the above areas and therefore the time factor would indicate later consideration.

The Commission again wishes to emphasize that the above priorities are not based upon the specific factors which will be considered in making final priority assignments of matching construction money. Therefore, it urges the above communities and any others which can qualify, to effect coordination at the earliest opportunity with the Department of Health relative to procedures for submitting applications in the event construction is necessary. The Commission would hope that in at least some of the communities the center can come into being as a concept of treatment and care without the necessity for building new facilities.

During the first five year period, and/or until adequate information and positive evaluation of the beneficial effects expected from the expansion of community care, the Commission feels strongly that the State Hospital system should be maintained in accordance with current planning factors.

AMA Continuing Education Program

Joseph F. Whiting, Ph.D., has joined the staff of the American Medical Association as associate director of the Department of Postgraduate Programs for Research and Evaluation. His duties will principally concern him with AMA's developing program in continuing medical education. They will include: (1) conducting research to determine the different circumstances under which doctors in practice must continue their own postgraduate education, and (2) setting up facilities and devices to evaluate the effectiveness of the educational program.

Dr. Whiting, 41, obtained his Ph.D. from the University of Pennsylvania in 1953. He has held staff appointments in Veterans Administration hospitals in Martinsburg, W. Va., Rutland Heights, Mass., and Pittsburgh, Pa. His two latest positions were with the Association of American Medical Colleges, Evanston, Ill., and the Multipurpose Home Visitor Research Program, Martinez, Calif.

His scientific publications cover a range of topics, many of them reflecting a strong interest in medical education.

Diagnostic Laboratory Medicine

Bilirubin Toxicity Kernicterus

Kernicterus is a most serious complication of high concentration of indirect bilirubin occurring in the neonatal period. Some manifestations such as athetosis, gaze palsies, enamel dysplasias of the deciduous teeth and auditory imperception or loss may occur later in life. These symptoms may be associated with hyperbilirubinemia of any cause but are preventable if serum levels of indirect bilirubin are kept below 20 mgm per cent.

Indirect bilirubin, a breakdown product of hemoglobin, is normally transported to the liver in the serum as a loosely bound bilirubin-albumin complex where it is conjugated to form the direct-acting bilirubin diglucuronide. This is an enzymatic conjugation with glucuronic acid which requires adenosine triphosphate, uridine triphosphate substrate and glucuronyl transferase to function. The capacity of this pathway in the immature newborn liver is low as is evidenced by the increased toxicity of substances metabolized by this route. The actual serum level of bilirubin in the unconjugated form is determined by the maturity of the liver and rate of hemolysis.

The acute toxic effect of indirect bilirubin in the brain is degeneration and necrosis of the ganglion cells. Often these cells contain yellow crystals of indirect bilirubin, which impart a characteristic canary yellow color to the affected nuclei of the brain. These changes are evident in the first two weeks of life following exposure to elevated levels of indirect bilirubin; after this only a gliosis can be seen in these areas.

Indirect bilirubin has been shown to exert a toxic effect on the mitochondria of cells. The mitochondria contain an enzyme complex, the respiratory chain, which conserves the energy liberated by cellular respiration as high energy phosphate bonds,

adenosine triphosphate (ATP). As this respiratory chain requires adenosine diphosphate (ADP) acceptors to work there is a built in mechanism for the control of cellular respiration. As ATP is created, ADP is depleted, intermediate substances pile up and cellular respiration is diminished. A breakdown of ATP supplies ADP acceptors and cellular respiration is accelerated.

In 1954, Day and co-workers demonstrated that bilirubin had an effect on cellular respiration. They showed that the *in vitro* oxygen consumption of tissue was reduced when indirect bilirubin was added to the system in a Warburg apparatus. It is interesting to note that although all tissues were affected, neonatal brain showed a much greater reduction. Although hematin showed a similar effect, direct (conjugated) bilirubin had no such effect.

It has been shown by Ernster in Sweden that this effect is analogous to an anionic detergent acting on the mitochondria. This causes an uncoupling of the ATP formed by the respiratory chain with concomitant abolition of the respiratory control exerted by the mitochondria. The effect is similar to a sudden surge of ATPase activity which places impossible demands upon cellular respiration causing the death of the cell. At the cellular level this effect is passive, almost instantaneous and irreversible.

This mechanism of toxicity makes the bilirubin concentration at the cellular level the critical factor. As serum bilirubin levels are not an accurate measurement of this, some of the vagaries of kernicterus as correlated with peak serum levels may be understood. A rapid transfer from the serum to the cell may result in low serum levels but high cell levels. Likewise, a retarded transfer may result in a low cell concentration. The manifestations of the disease are the result of higher levels in the cell, the most susceptible tissue being the neonatal

brain. Some authors state that if levels of indirect bilirubin had been kept below the 20 mgm% level by transfusion up to 10 per cent of the cerebral palsy seen today would have been prevented.

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Improved Physical Education Needed

Exercise can do more than merely build muscles. The right kind of exercises and games can help a child gain confidence, improve his skill in movement, and create interest in vigorous activity he can carry into adult life. Regular exercise can also help to control obesity, delay degenerative disease, rehabilitate the ill or injured, and shorten recuperative periods. This is why schools and colleges should offer a variety of activities in physical education programs, says the American Medical Association's Committee on Exercise and Physical Fitness.

The newly formed committee, consisting of physicians from throughout the nations, has issued the first in a series of reports on the value of physical activity and properly developed physical education programs.

"Students of both sexes need vigorous exercise. Regular vigorous activity appropriate to age, sex, and health status is beneficial to everyone but a medically-excepted few. Continuing research shows that adequate exercise and sports activity contribute significantly to good health."

Even the handicapped can benefit from exercise. Handicapped children should be

encouraged to participate in games and exercises to the limit of their ability. Exercise not only speeds the rehabilitation of atrophied or unused muscles, but helps maintain organic fitness and gives a boost to the child's self-confidence.

There are problems, however, in developing adequate physical education programs. In some situations, varsity sports programs are given priority in attention and resources over intramural and physical education programs.

Each school is responsible for teaching the value and appreciation of physical fitness. The group said decreases in behavioral problems and increases in intellectual efficiency can be expected if the school's physical education program is a good one.

Members of the AMA Committee on Exercise and Physical Fitness include J. Roswell Gallagher, M.D., Boston, Mass., chairman; Warren R. Guild, M.D., Boston; Theodore G. Klumpp, M.D., New York City; James C. H. Russell, M.D., Fort Atkinson, Wis., and Allan J. Ryan, M.D., Meriden, Conn.

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Poison Control Centers

In 1962, there were approximately 3,000 deaths in this country due to accidental poisonings. In the same year about 4,500 suicidal poisonings were recorded. Statistics as to the number of non-fatal poisonings which occur annually are unreliable, but recently it was estimated that about 500,000 cases of poisonings occur each year just in children under five years of age.

These amazingly high figures represent cases of poisoning, not due to arsenic, cyanide or strychnine, but mainly due to drugs, cosmetics, pesticides, cleaning agents and many other useful products. Our society demands, and modern chemical and pharmaceutical industries produce, a constant stream of new products to make our lives healthier, more pleasant and easier. Many of these products are life-saving and indispensable. Most are harmless when used properly according to directions. All are harmful and sometimes lethal when misused or taken in overdosage. All are poisons!

In order to combat this problem, about eighteen years ago some pediatricians developed the concept of a "poison control center". This center was to be a source of information to the busy practitioner. The idea spread rapidly until today there are more than 500 such centers in the United States and its territories. Virginia has 17 and one or two more may be added in the near future.

In addition, there is a central agency under the administration of the U.S. Public Health Service called the National Clearing House for Poison Control Centers. This agency supplies all approved centers with a card file listing commercial products according to trade names and giving informa-

tion as to ingredients, toxicity and treatment. New cards are added every few months to keep up with new products or old products which are modified. In addition, a monthly bulletin is published by the National Clearing House for Poison Control Centers giving information regarding antidotes, improved treatment and other appropriate information.

In return for this national service, individual poison control centers report to the National Clearing House for Poison Control Centers as to each case of poisoning which they handle. These cases may be telephoned requests for information or in serious poisonings hospitalizations and treatments of patients. Treatment and the results of treatment are also reported to the national agency.

The actual operation of a poison control center varies considerably depending upon the way in which the center was established and the community served. Usually, the best policy to follow is to distribute information only to physicians. It is frequently not advisable to prescribe emergency treatments or attempt to evaluate the condition of the patient by telephone. It is essential that the patient be seen by a physician in order to evaluate the patient's condition and thus treat the poisoning in the most efficient way possible. Since most poison control centers are information centers only and not treatment centers, it can only advise a physician as to the toxic ingredients in a commercial preparation and the treatment of choice. Much of this information is highly technical and many antidotes and treatments must be administered with caution. The physician must decide whether the condition of the patient warrants using a specific treatment.

If the incoming call is from a parent or a layman, the poison control center should advise the caller to take the patient to a physician or to the emergency room of the hospital for examination. The center should assist the caller in any way possible to obtain help or transportation, if this is necessary.

At all times it is advisable for the poison control center to stress the importance of the parent or the physician to save, and bring in to the hospital, the bottle or can or package which contained the toxic substance. Frequently, the name of the commercial product is illegible or the substance has been transferred to another container and the name of product is not available. In cases of this type, it may be of utmost importance to conduct an analysis of the substance in question in order to determine whether a toxic ingredient might be present. Analyses of this type are best carried out by a toxicology laboratory. If such a laboratory is not available, many hospital, clinical or pharmacy laboratories can be of

help in determining the composition of an unknown substance. At times it may be necessary to transport the specimens to a toxicology laboratory for special analyses.

As in all emergencies and accidents, every effort must be made by the person answering the call to remain calm, act deliberately and communicate the necessary information as accurately as possible.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	April 1965	April 1964	Jan.- April 1965	Jan.- April 1964
Brucellosis -----	0	0	1	2
Diphtheria -----	0	0	0	0
Hepatitis -----	128	48	337	220
Measles -----	721	3273	2836	6843
Meningococcal Meningitis--	7	12	30	24
Meningitis (Aseptic) -----	0	0	4	4
Poliomyelitis -----	0	0	0	0
Rabies (In Animals) -----	38	23	195	154
Rocky Mt. Spotted Fever --	0	2	1	2
Streptococcal Infections ---	1365	1019	5323	5041
Tularemia -----	0	0	3	3
Typhoid Fever -----	0	2	2	6

A New Semi-Synthetic Penicillin

The American Medical Association's Council on Drugs has issued a preliminary report on a new semi-synthetic penicillin, sodium nafcillin.

The drug, described in a March issue of the Journal of the American Medical Association, was reported to be effective in the treatment of staphylococcal infections resistant to an earlier antibiotic, penicillin G. Staphylococci are spheroidal bacteria which live almost everywhere in nature, although not all of them produce disease.

Nafcillin has proved effective in treating infections of the respiratory tract, soft tissues, and skin. It also has been effective against osteomyelitis (inflammation of the

bone) and subacute bacterial endocarditis (inflammation of the inner lining membrane of the heart).

The drug may be given orally, intramuscularly or intravenously. Nafcillin causes more pain and tissue irritation than most other penicillins when given intramuscularly.

Because nafcillin is a new drug, blood cell studies and kidney and liver function tests should be made during prolonged therapy, the report cautioned. Nothing is yet known about the safety of nafcillin in treating pregnant women; however, the penicillins in general appear to be safe.

Correspondence

April 28, 1965

"Please, Mr. Shriver!"

To the Editor:

With all due respect to Mr. Edgar Fisher and the Virginia Council on Health and Medical Care which he ably directs, I would like to make this reply to his guest editorial in the April edition of *The Virginia Medical Monthly*.

Anyone deriding the Peace Corps and its medical needs should know he is on much thinner ice than was ex-President Eisenhower when he called it "The Kiddie Car Corps" in 1960. The Peace Corps is a shining success by any standard with demand far exceeding supply in every country in which they have been invited to serve. Peace Corpsmen abroad now outnumber American missionaries, and our programs are being copied by several other nations.

It is not necessary to be a medical missionary to do effective work abroad. Dr. T. A. Dooley was a most devout Catholic but his work was and MEDICO is strictly non-sectarian.

I can see nothing inconsistent in Mr. Shriver's two positions; being head of the Peace Corps and also leading the war on poverty. Whatever physician shortage there is now in this country is based on continuing prosperity and most certainly depends on our prevailing in the world wide conflict we now engage in. If and when our war on poverty is won I am confident medical care will be available.

Mr. Fisher touched on one sensitive area when he mentioned under-utilization of government physicians in Virginia. Of course, this situation must occur throughout the continental United States and there is no easy answer to it if efficient military

units are to be maintained. Under present law, the military cannot order their doctors into the Peace Corps or permit them to go voluntarily. On the other hand, if young doctors could be given military exemption for voluntary Peace Corps service how much more beneficial their tours of duty could be to them, to us and to the area in which they serve.

That the grinding poverty in most areas of Latin America, Asia and Africa is both a challenge and a threat to us must by now be undeniable. The Peace Corps is attacking this problem at its roots and certainly returns to us far more per dollar than any other ten dollars spent so far in the cold war.

Speaking from the admittedly biased vantage point of having had two medical "larks" to Viet Nam* and one to Haiti in the past four years, I will conclude my saying that being a physician abroad in an area where one is truly needed is a most rewarding and meaningful experience and one that more and more Americans are being privileged to enjoy.

In his book "Out of my Life and Thought" Dr. Schweitzer describes the difficulties and obstructions he met in getting started in his medical work in equatorial Africa. To me, it is one of the several benefits of our jet age, that practicing physicians with far less than the lifetime dedication of a Schweitzer can nevertheless make an overseas contribution of some substance within the framework of work-a-day medical practice.

MARTIN DONELSON, JR., M.D.

*Surgical experience in South Viet Nam, M. Donelson, Jr., *Virginia Medical Monthly*, April 1962.

1035 Main Street
Danville, Virginia

Woman's Auxiliary

President-----MRS. W. NASH THOMPSON, Stuart
President-Elect-----MRS. GEORGE W. KELLY, Pulaski
First Vice-President-----MRS. C. SHERRILL ARMENTROUT,
Harrisonburg
Second Vice-President-----MRS. T. E. SMITH, Hayes
Third Vice-President--MRS. F. PRESTON TITUS, Alexandria
Recording Secretary--MRS. WILLIAM J. REARDON, McLean
Corresponding Secretary-----MRS. DRAKE PRITCHETT,
Danville
Treasurer-----MRS. ROBERT H. MITCHELL, Arlington
Parliamentarian-----MRS. T. N. HUNNICUTT, JR., Tabb

Norfolk.

The Auxiliary of the Norfolk County Medical Society recently had a recap of their forty-one years of growth. A business, program and luncheon meeting was held at the Norfolk Yacht and Country Club. Mrs. Henry Boone related the organization's history in which she told of their work in the establishment of a day nursery to aid working mothers; the giving of \$1,500 to maintain a bed in the tuberculosis hospital; furnishing a medical library for the doctors' use and cataloguing the books; over \$35,000 in cash spent on behalf of the City of Norfolk for hospitalized children, elderly indigent and underprivileged children; the raising of \$1,600 for the Norfolk Museum; and numerous other projects.

Doctor's Day Observances.

The Auxiliary to the Rockingham County Medical Society presented their doctors with red carnations and held a covered dish dinner at the Spottswood Country Club in their honor.

The Auxiliary to the Portsmouth Academy of Medicine held a dinner-dance at the Suburban Country Club.

The Auxiliaries to the Newport News and Norfolk Societies exhibited a collection entitled "Two Hundred Years of Tidewater Medicine" at the Norfolk Museum of Arts and Sciences. Among the items shown was a cupping set and a set of 222-year-old scales, saddle bags, a pair of 200-year-old eye glasses, and a wooden chest for storing medical supplies in the 1800's.

The Auxiliary of the Newport News Medical Society also presented a \$250 check to the Patrick Henry Hospital for the Chronically Ill.

The Auxiliary to the Danville-Pittsylvania Academy of Medicine began their day by presenting red carnations to the doctors on their arrival at the Memorial Hospital. The day-long tribute concluded with a cocktail party and dinner at the Danville Golf Club.

Dearth of 'Drugs in Search of a Disease'

In my opinion the predicted reduction in "public relations" drugs (those which the pharmaceutical companies kept in clinical investigation without any hope of commercial success) has indeed occurred. Also those interesting drugs that produce important pharmacological changes but have no known therapeutic use—in other words, "Drugs in Search of a Disease"—are fewer in number and more highly restricted in that fewer investigators are privileged to search for therapeutic uses. But the greatest impact is always the change in one's own research program produced by new regulations. What were these? The impact has been tremendous and has driven us to drink and chain-smoking since the use of alcoholic beverages and nicotine in clinical research have not, *as yet*, been covered by regulations.—Carl C. Pfeiffer, Ph.D., M.D., in *Journal of New Drugs*, 4:6, (Nov.-Dec.) 1964.

Current Currents

MEDICARE: As this issues goes to press, hearings on House passed H. R. 6675 have just been concluded by the Senate Finance Committee. What the future holds is anyone's guess, but there will undoubtedly be some changes in the basic bill by the time the Senate gets its chance to vote.

Perhaps the biggest battle had to do with efforts by the American Hospital Association and others to have the services of anesthesiologists, pathologists, radiologists and physiatrists restored in the bill as hospital benefits. This action was taken despite repeated assertions by medicine that the practice of these four specialties was as much the practice of medicine as any others.

During testimony before the Finance Committee, Dr. Victor B. Buhler, President of the College of American Pathologists, said: "... If any medical specialty, or group of medical specialties, is dealt with prejudicially in a federal law, physicians will simply not enter these specialties. Doctors are unwilling to undergo years of extra training only to be designated as 'hospital services' at the end of this training. No doctor wants to be less than a doctor. They have options to enter other branches of medicine and will exercise these options. . . ."

Another battle revolved about efforts of many physicians to have deleted from the bill that section which would bring all self-employed physicians under social security.

HEART, CANCER, STROKE: The American Medical Association has asserted that the proposed national program to "conquer" heart disease, cancer and stroke could seriously damage the present system of American medical education and medical care.

According to AMA, the whole proposal evolves from two undocumented and controversial assumptions. These are: (1) that American physicians are unable to keep abreast of and apply new medical knowledge; and (2) that more money should be spent on medical research to find new concepts applicable to the treatment of disease. If data are available to substantiate either assumption, the Association asked that it be made available to the medical profession and the public.

The report of the commission in December raised many more questions than it answered, says the AMA. In essence, the Association declares, the commission proposes to reorganize the American system of delivering medical care to the patient and the way in which the American physician and scientist are educated.

EMPLOYEE GAIN: Twenty years ago, a general hospital employed 148 persons to care for every 100 patients. Today the number has increased to 241.

DR. ROBERTSON: It is with sincere regret that we learn of the coming retirement on July 1 of Dr. Abner Robertson as Executive Director of the Virginia Association for Mental Health. Dr. Robertson, a friend of medicine and The Medical Society of Virginia for many years, has done much to increase public interest in mental health problems and activities, and his services will be sorely missed. May we be among the first to send Dr. Robertson a sincere "well done".

MEDICARE TAX: You might wish to save the following chart which shows in detail how H. R. 6675 would be financed should it become law:

INDIVIDUAL AND EMPLOYER EACH WILL PAY—

	S.S. Tax	Med. Rate	Wage Base	Maximum Tax
Now	3.625 %	None	\$4,800	\$174.00
1966	4.0 %	0.35 %	5,600	243.60
1967	4.0 %	0.50 %	5,600	252.00
1969	4.4 %	0.50 %	5,600	274.40
1971	4.4 %	0.50 %	6,600	323.40
1973	4.8 %	0.55 %	6,600	353.10
1976	4.8 %	0.60 %	6,600	356.40
1980	4.8 %	0.70 %	6,600	363.00
1987	4.8 %	0.80 %	6,600	369.60

SELF-EMPLOYED WILL PAY—

Now	5.4 %	None	4,800	259.20
1966	6.0 %	0.35 %	5,600	355.60
1967	6.0 %	0.50 %	5,600	364.00
1969	6.6 %	0.50 %	5,600	397.60
1971	6.6 %	0.50 %	6,600	468.60
1973	7.0 %	0.55 %	6,600	498.30
1976	7.0 %	0.60 %	6,600	501.60
1980	7.0 %	0.70 %	6,600	508.20
1987	7.0 %	0.80 %	6,600	514.80

DISASTERS: Although figures for 1964 are not yet complete, the number of disasters occurring over the world during 1963 totaled 58. These were disasters resulting in multiple casualties and property loss. Leading the list was natural disasters showing 15, air crashes with 13, marine 12, fire and explosions 10, mining 4, and road 4. Among the list of events were the volcanic eruptions in Bali, Indonesia, which killed an estimated 15,000 and the earthquakes in Kashmir which killed about 100 people and injured 500.

DRUG INDUSTRY FACTS: Pharmaceutical industry research spending on medical products is almost nine times more than it was in 1950: From \$39 million in 1950 to \$346 million in 1965.

The drug industry pays for almost all of its research and development, whereas a large percentage of research by other industries is government financed.

Expenditures by the industry for research have been increasing at a rate more than twice as great as the increase in sales: Sales increased an estimated 85 %, which research spending increased 262 % during the past decade.

Results of the Questionnaire

THE RESPONSE to the questionnaire which appeared in the January issue of the Virginia Medical Monthly was better than has been anticipated and considerable light was thrown on the reading habits, likes and dislikes of the subscribers to our journal. While only ten percent of our readers went to the trouble of cutting out and returning this rather lengthy questionnaire, our response exceeded that reported by many of our neighboring state journals and the Virginia Medical Monthly appreciates this interest and aid on the part of our subscribers.

The replies varied from a terse listing of preferences, accomplished by checking the appropriate box in answering each of the queries, to a detailed two page single spaced letter in which one of our valued Roanoke correspondents gave thoughtful replies to the final three questions in the questionnaire. The largest number of replies (74), not too surprisingly, were received from general practitioners; the internists were next with 54, and the surgeons fell to 35. At the opposite end of the response spectrum were the practitioners of preventive medicine, neurosurgery and oral surgery, who forwarded one reply each.

One hundred and twenty-nine readers considered our scientified papers "excellent", 154 rated them "fair", and 12, we regret to say, termed them "poor". Seventy-three subscribers read our pharmacy advertisements "regularly", 153 only "sometimes", and 69 scanned them "rarely". Our local ads fared even worse, for only 45 read them "often", 177 "sometimes", and 75 "never". A Richmond pharmaceutical firm, we are happy to relate, led all the other drug companies in the number of products prescribed as a result of advertisements appearing in the Virginia Medical Monthly. One reader candidly listed the ad that resulted in establishing contact with his present place of employment as the local service extended by the journal which had meant the most to him.

In reply to the question concerning the listing of professional journals in order of preference, the Virginia Medical Monthly was listed first in 28, second in 50, third in 68, and fourth, fifth or sixth in an additional 108 returns. The J.A.M.A., on the other hand, was listed first by 56 readers, and the various specialty journals received a total listing of 152 firsts. The New England Journal of Medicine polled 36 first places, an excellent standing for a regional publication. The message comes through clearly—we will have to borrow some ideas from our Boston rival. Our desire to publish CPC's was emphasized in the May issue of the journal. Thus far we have not received response from any source.

The sections that dealt with personal likes and dislikes were of especial value to the Editorial Committee. The answers were too diversified to list but the general impression was obtained that the over-all policy of the Virginia Medical Monthly paralleled rather closely the views of a majority of our readers. There were, of course, exceptions noted from

both the political right and left. These, however, were remarkably few and indicated that by and large the physicians of Virginia continue to find themselves just a little to the right of center.

Only two replies were sharply critical and both were forwarded by practitioners of obstetrics and gynecology. The more virulent of the two ended his recommendations by opining that "As far as I am concerned the Journal is completely written, edited and published by a bunch of dodos." This sounded like bad business and your editor was prompted to consult Webster's Dictionary to see just what had been said about him. Here he discovered that a dodo is "A large, heavy, flightless bird, now extinct." Our critic may have a point or two for unquestionably the writer is large and heavy and it is undeniably true he has been flightless since the end of World War II, but praise be, as of this writing, he is not extinct.

Two other members of this specialty complained that the journal did not publish a sufficient number of articles dealing with obstetrics. The Virginia Medical Monthly is in complete accord and would like to correct this situation. Your editor, however, does not feel competent to prepare these articles himself and this feeling of inadequacy is doubtless shared by writers in other fields so there appears to be no alternative but to wait until some member of this discipline forwards the desired material which will then be given a high priority in date of publication.

The journal wishes to thank all of the members who participated in this survey and will make every effort to incorporate the suggestions that have been received in future issues of the Virginia Medical Monthly.

H.J.W.

Rampant Welfare

ONE RESULT of the last national election must surely be the clarification of the fact that Americans, perhaps blindly and selfishly, want more welfare. They see it rampant abroad. They hear that poverty is widespread here, if unseen. They see their elderly living longer and needing more years of care. We conservatives must recognize this desire. We must realize that bitter-to-the-end fighting may only make our influence that much less. It is probably too late to stop "Fedicare". We should better try to anticipate and prevent major new problems years in advance. For instance, if the A.M.A. had proposed and pushed its "Eldercare" program a decade ago, long before the liberals had their own victory in their grasp, it might well have prevented what it calls Fedicare.

What large problem of the future can we now anticipate? Will there be a greater one than the sheer mass of the poor forty years hence? To estimate that there may be fifty million indigent Americans of voting age at that time is not being wildly speculative. Apparently, the only joy of that group lies in procreation. Civilization having rushed past them, these millions of illiterate, stupid, incompetent, unfortunate, or crippled persons will inevitably be on some sort of dole. Our fortunate (we hope) children will not want to deny them adequate subsistence.

The problem will be to deny them purse-breaking luxuries, to prevent the inevitable huge welfare bill from breaking us economically, nationally. Some localities are already nearly at that point now. To be blunt, our children are going to face a huge voting block which, if strategically located, may swing elections. With demagogues in power, a hundred billions a year in welfare might not be unlikely. We must recall that excessive appeasement of the poor played a part in the fall of great Rome.

All conscientious Americans, conservative and liberal alike, ought to recognize this problem. We should anticipate it now, before it is upon us. Then it will be too late. The banker, the merchant, the plumber, the mechanic, the nurse and the physician will concern themselves with this problem only with difficulty because it is not now pressing, not now worrisome in an age of cold war, high taxes, much crime, and expensive colleges. But surely some group must take the lead, present the problem, and offer a heading-off solution. If it requires swallowing the apparently bitter pill of cooperation and compromise with the liberals, then such an ingestion should take place.

The solution? It is simply this: all persons whose subsistence depends on the public dole or assistance must lose the franchise until they become self-supporting. Then and then only will the twenty-first century folk who will live by their hands, their skills, their brains, or by the fruit of life-long labor be safe from exploitation. Going off the dole would then have as one of its many rewards the right to vote. Surely it is not too much to demand that the helpless poor give up one thing—the power to enforce unreasonable demands—in exchange for public support. *It is intolerable that wards of the state be in the position of ruling the state.*

The obstacle is that at the present time all voting restrictions are anathema to the liberals. That is their emotional reaction to certain unreasoning voting restrictions enforced by ultra-conservatives. Cannot both groups compromise by lifting voting restrictions on all but the wards of the state? Felons and those in mental institutions are already without the franchise. Let us include with them those persons on welfare rolls.

G. W. JONES, M.D.

Calendar of Events

This calendar is our first attempt to publish a list of coming events. We hope, in the months ahead, to make it truly comprehensive and worthwhile.

SEABOARD MEDICAL ASSOCIATION, The Carolinian Hotel, Nags Head, N. C., June 17-20.

AMERICAN COLLEGE OF CHEST PHYSICIANS, Waldorf Astoria Hotel, New York City, June 17-21.

AMERICAN MEDICAL ASSOCIATION, New York City, June 20-24.

DUKE MEDICAL POSTGRADUATE COURSE, Morehead City, N. C., July 12-17.

NUTRITION INSTITUTE, Georgetown University School of Medicine, Washington, D. C., July 26-30.

NATIONAL CONFERENCE ON PHYSICIANS AND SCHOOLS, Sheraton-Chicago Hotel, Chicago Hotel, Chicago, Illinois, September 23-25.

THE MEDICAL SOCIETY OF VIRGINIA, Hotel John Marshall, Richmond, October 10-13.

STATE-LOCAL HOSPITALIZATION REGIONAL CONFERENCE (SLH), Hotel Roanoke, Roanoke, October 28.

STATE-LOCAL HOSPITALIZATION CONFERENCE, Convention Center, Williamsburg, November 5.

New Members.

The following members were received into The Medical Society of Virginia during the month of April:

Robert Monteith Allen, M.D.,
Falls Church

Joseph E. Anderson, M.D., Roanoke

Jenaro S. Asteinza, M.D., Radford

Chapman Hunter Binford, M.D.,
Arlington

Barrington Herndon Bowser, M.D.,
Richmond

Philip Briguglio, M.D., Arlington

John Albert Hagy, M.D., Rocky Mount

John Walter Houk, M.D., Roanoke

Louis Quain Pugsley, M.D., Falls Church

Ludwig Anthony Rossillo, M.D.,
Roanoke

William Langley Sibley, III, M.D.,
Roanoke

Walter Jackson Stanford, M.D., Galax

George Ernest Thomas Stebbing, M.D.,
Warsaw

William Bryan Waddell, M.D., Galax
Lawrence Alden Williams, M.D.,
Yorktown

Dr. John L. Hamner,

Mannboro, has been presented the Douglas Southall Freeman Award by the Virginia Tuberculosis and Respiratory Disease Association. The Award is given each year to the person who has contributed most to the fight against tuberculosis in Virginia. Dr. Hamner has been a director-at-large of the association since 1956 and from 1959-61 was a member of the executive committee. The award certificate cited him "for his embodiment, over many years, of the finest attributes of the physician for thousands in his community; for his integrity and compassion, and for his service to the Commonwealth of Virginia, when, as chairman of the State Board of Health, he has spoken out in timely and needed support of the struggle against tuberculosis.

Dr. Hamner is a past president of The Medical Society of Virginia and of the Virginia Academy of General Practice.

Dr. William J. Hagood, Jr.,

Clover, has been elected vice-speaker of the Congress of Delegates of the American Academy of General Practice.

Dr. William Parson,

Chairman of the Department of Internal Medicine at the University of Virginia, has been elected a governor of the American College of Physicians.

Seaboard Medical Association.

The 70th Annual Meeting of this Association will be held at the Carolinian Hotel, Nags Head, North Carolina, June 17-20, under the presidency of Dr. Gervas M. Taylor, Norfolk.

The following scientific program will be presented: On June 18th, New Antibiotics and Their Place in Therapy by Dr. Richard H. Mead, III, Boston; Recent Advances in Pediatric Surgery by Dr. George Harkins, Norfolk; Selective Coronary Cineangiography, A Correlative Study by Dr. William C. Elliott, Boston; and on a topic to be announced by Dr. R. Drennan Lowell, Boston. On the morning of the 18th there will be three Breakfast Roundtable Discussions: Significance of Gram Negative Bacterial Infection; A Cardiologist Looks at the Pre-Operative Patient; and the third topic to be announced. At the general session there will be a short talk by Dr. Charles Devine, Jr., Norfolk; Dr. J. B. Rhine, Duke University, will speak on Extrasensory Perception; and Dr. Leston Havens, Boston, will also present a paper.

Dr. John L. Guerrant,

Charlottesville, has been elected president of the Virginia Thoracic Society. He succeeds Dr. John A. Sims of Alexandria.

Dr. W. M. Phipps,

Hopewell, was recently honored for fifty years of service. The John Randolph Hos-

pital Authority presented him with a plaque for his "50 years of devoted service to his fellowman". Dr. Phipps has practiced for thirty-seven years in Hopewell.

Virginia Diabetes Association.

At the spring meeting held at Hot Springs on March 25th, Dr. L. Benjamin Sheppard, Richmond, was elected president; Dr. H. St. George Tucker, Richmond, vice-president; and Dr. Bernard H. Miller, Norfolk, secretary-treasurer.

Dr. John A. Murray,

Franklin, has been elected to the Board of the Tri-County Association for Retarded Children.

Dr. Raymond S. Brown

Has been elected president of the Rotary Club of Gloucester.

Needed.

General physician-family internist—by four man group in growing rural program in West Virginia. Modern clinic facilities, regularly visiting specialist consultant staff, scheduled training, and vacation periods, foundation sponsorship, no investment required. Starting net income range \$14,000-\$18,000, depending on qualifications.

For further information, write #20, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Radiologist Needed.

Two Board certified or eligible associates needed to complete Group covering four hospitals (total 282 beds) and private practice. Base hospital expanding to 300 beds. Service area covers rapidly growing urban and rural area with total population of 130,000. Described as "one of the most economically stable areas in the nation"; teaching institutions nearby. Excellent income, partnership, no investment, adequate time off. Dr. H. M. Price, 15 Starling Avenue, Martinsville, Virginia. (*Adv.*)

Obituaries

Dr. Thomas Jefferson Tudor,

Norton, died April 5th after a long illness. He was eighty-four years of age and a graduate of the Medical College of Virginia in 1909. Shortly after his graduation, Dr. Tudor began practice in Norton where he continued until poor health forced his retirement in 1959. Since that time he had lived with a sister in Critz. In 1955, Dr. Tudor was presented with the honorary degree of doctor of science from Georgetown University. Himself a non-Catholic, he was cited for helping the Sisters at St. Mary's Hospital in Norton establish their Hospital. Dr. Tudor will be remembered for his many charities, among them being the sponsoring of a number of needy boys seeking to go to college. He was a past president of the Kiwanis Club, a surgeon for the Norfolk and Western Railway, a Mason and a Shriner, and a past president of the Wise County Medical Society. He had been a member of The Medical Society of Virginia for fifty-six years.

A brother and two sisters survive him.

Dr. Mercer Waller Crafford,

Lee Hall, died April 7th, at the age of eighty-one. He graduated from the former University College of Medicine, Richmond, in 1909 and was a member of the first four-year class to be graduated. Dr. Crafford has been a member of The Medical Society of Virginia for fifty-six years.

His wife, two daughters and three sons survive him.

Dr. Joseph Edward Rucker,

Roanoke, died April 12th. He was sixty-three years of age and graduated from the

Medical College of Virginia in 1925. Dr. Rucker practiced for twenty-five years in Charleston, West Virginia, before moving to Roanoke where he was a resident physician at the Veterans Hospital. He was a member of The Medical Society of Virginia, having joined in 1956.

His wife, a son and daughter survive him.

Dr. Graziani.

WHEREAS, in the infinite wisdom of God, He has seen fit to take from us our friend and fellow practitioner, John G. Graziani, we the staff of Southside Community Hospital feel that his loss to the community is a grievous one.

Dr. Graziani completed his medical training in New York University, graduating in 1934, followed by post-graduate training at Bellevue Hospital. He went into practice in Westchester County, New York, but heard his country's call at the beginning of World War II and volunteered for service. After receiving preliminary military training, he was sent overseas and saw service in the South Pacific.

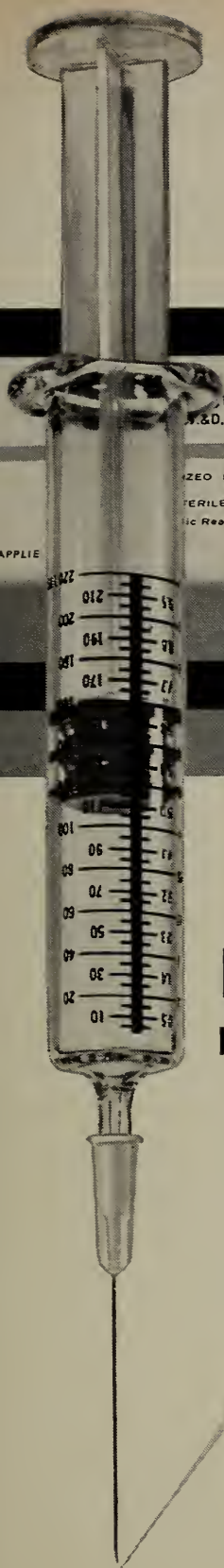
He had already qualified as an internist. On being discharged from service, he took a refresher course at Duke University and opened his office in Farmville in January 1946. He quickly built up his practice in internal medicine, primarily as a consultant.

In 1954 he suffered a coronary attack but recovered sufficiently to resume his practice on a part-time basis, though continuing to have angina during the remainder of his life. He also served as physician to Longwood College where he was highly esteemed. In 1960 he was awarded a Fellowship in the American College of Physicians.

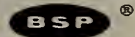
Dr. Graziani had a keen, analytical mind and a broad medical knowledge which was not limited to his specialty. He merited the respect and affection of his fellow practitioners and patients alike, and his loss is keenly felt by all who knew him.

THEREFORE BE IT RESOLVED that we recorded this with sadness in our minutes.

AND FURTHER BE IT RESOLVED that we send a copy to Dr. Graziani's family and the Virginia Medical Monthly.



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VIRGINIA MEDICAL MONTHLY

(Founded by Landon B. Edwards, M. D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

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Annual Subscription—\$2.00

Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL

Reading and Writing and Refilling Prescriptions—
William G. Tarrant, Jr...... 297

ORIGINAL ARTICLES

Prediabetes—*Eugene M. Newman, M.D., and H. St. George
Tucker, M.D.*..... 299

Current Concepts of Diabetic Nephropathy—
Fred B. Westervelt, Jr., M.D...... 304

Pancreatic Islet Cell Tumors—*William R. Jordan, M.D.*.... 308

Principles in the Use of Insulin and Oral Agents in the
Treatment of Diabetes—*Randall G. Sprague, M.D.*..... 311

Roentgen-Diagnostic Value of Spasm of Certain Colonic
“Sphincters”—*Christian V. Cimmino, M.D.*..... 317

CLINICOPATHOLOGICAL CONFERENCE 321

PUBLIC HEALTH

Is Tuberculosis Under Control?..... 329

MENTAL HEALTH

Prognosis in Schizophrenia—*Arthur Centor, Ph.D.*..... 331

DIAGNOSTIC LABORATORY MEDICINE

Gastric Analysis—*G. S. Hooper, M.D.*..... 335

EDITORIAL

Medical Orphans—*James M. Moss, M.D.*..... 338

The Clinicopathological Conference—A New Feature—
Harry J. Warthen, M.D...... 339

NEWS 340

OBITUARIES 344

The MONTHLY is not responsible for the opinions and statements of its contributors.
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Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 50

Guest Editorial . . .

Reading and Writing and Refilling Prescriptions

ACCURACY is important in all scientific endeavors and probably most important in those relating to health. In fulfilling his duty of dispensing exactly "what the doctor ordered" the pharmacist's role is occasionally complicated by some "extra-curricular" problems. For example, there is a difference between *Mr.* and *Mrs.* and, as the French would say—"Vive la difference". However, it is sometimes difficult to distinguish the difference between the two—that is when they are written on a prescription blank! If the pharmacist makes a guess he invariably guesses wrong and consequently his customer wonders if he could read the rest correctly.

Another "occupational hazard" of the practicing pharmacist is the close similarity of some of the names of prescription drugs. A list of these "look-alikes" and "sound-alikes" that have already or are likely to cause trouble, either in writing or over the telephone, include: ORINASE and ORNADE, ISORDIL and ISUPREL, TOFRANIL 25 mg. and TEPANIL 25 mg., ROETINIC and RITONIC, MEDOMIN and METAMINE, MUDRANE and MODANE and ARTAMIDE and APAMIDE. As new products come on the market this problem will undoubtedly grow.

There are also some "look-alikes" in prescription directions, such as—"q d" and "q i d", "t i d" and "b i d", and not infrequently "a c" will resemble "p c" and vice versa. With these similarities in mind it becomes increasingly important that the name of the medication, as well as the directions, be written carefully and clearly whether it be on the hospital chart, the nursing home chart or on a prescription. And even "spelling it out" sometimes over the phone might be a good idea.

With the gradual reduction of formal instruction in prescription writing the pharmacist finds the physician frequently using English abbreviations in conjunction with the standard Latin abbreviations. Such as "q o d" to mean "every other day", "p c b" to mean "after breakfast", "p c l" to mean "after lunch" and "p c s" to mean "after supper". And

too, he finds the occasional use of symbols in hospitals and elsewhere, such as "One tablet 4 X d" to mean "One tablet four times daily"; "One capsule a BT" to mean "One capsule at bedtime"; "One tablet q 4°" to mean "one tablet every four hours"; "BM" for "bowel movement" and "M&N" for "morning and night". On the whole these abbreviations and symbols are readily understandable and acceptable. In the use of "AM and PM" there is a slight ambiguity as it might be transcribed as "morning and afternoon" or "morning and night".

The legend appearing nowadays on prescription medication, which reads "Federal Law prohibits dispensing without prescription" has added another, and albeit, important part to the make-up of a prescription, that is instructions indicating whether or not the patient may have the medication renewed. Concerning refilling, a review of one thousand consecutive prescriptions (filled recently in the writer's pharmacy) showed that less than half of them indicated the wishes of the prescriber concerning refills. This procedure, of course, cannot be followed in all cases, but when possible it is most helpful and time-saving to the pharmacist, the patient and the physician. Refill instructions are sometimes incorporated in the "Signatura" which might read "Take one capsule 3 times daily after meals, and refill for 30 days" or "- 90 days" or whatever the case may be.

In giving consideration to some of the above-mentioned points the physician would be of help to the pharmacist in his "watch-dog" role of seeing that the patient receives the proper medication in the prescribed manner at the time or times when it is needed.

WILLIAM G. TARRANT, JR.

*1 West Broad Street
Richmond, Virginia*

Prediabetes

Prediabetes deserves and is receiving more interest as knowledge of the condition increases. Perhaps it is through study of this area that a better understanding of diabetes will be achieved and the door opened for effective prevention of complications.

“**B**EFORE YOU ARE BORN you are prenatal, yet already in existence; before you are diabetic you are prediabetic—a state which is not normality not yet a disease, but certainly there.” This statement by Jackson¹ sums up the reasons behind a search which is presently going on to discover and expose the very essence of diabetes—that abnormality which causes one person to become diabetic while another does not. Prediabetes is that time in the life of a diabetic from conception until the first evidence of reduced beta cell reserve can be found.² This then may be destined to become a disappearing category as we successfully delve deeper into the biochemical mysteries which compose it.^{3,4}

Classification

The classification of the states of diabetes most often quoted at this time is that of Conn and Fajans,² (Table 1) who separate the generally accepted extremes of overt diabetes and prediabetes by an area which they call asymptomatic diabetes. In this

From the Department of Medicine, School of Medicine, Medical College of Virginia.

Presented at the Annual Meeting of the Virginia Diabetes Association, Norfolk, May 8, 1964.

EUGENE M. NEWMAN, M.D.
H. ST. GEORGE TUCKER, JR., M.D.
Richmond, Virginia

group there is ordinarily no glycosuria, but impairment of insulin reserve can be demonstrated by the standard glucose tolerance test or by the cortisone glucose tolerance test.⁵ The validity of the cortisone-loaded subgroup has been questioned by a few workers, who have noted that some mild diabetics show no decreased glucose toler-

TABLE 1

CLASSIFICATION OF DIABETES

1. Overt Diabetes—Symptomatic, fasting hyperglycemia.
2. Asymptomatic Diabetes
 - a. Clinical—Abnormal standard glucose tolerance test.
 - b. Subclinical—Normal standard glucose tolerance test, abnormal cortisone glucose-tolerance test.
3. Prediabetes—All tests of carbohydrate function normal.

ance after cortisone, and nondiabetics may show abnormal results with this test during pregnancy and with advancing age.^{6,9} But even if steroids play an important part in differentiating the magnitude of the diabetic state, they have no place in the diagnostic workup of a potential prediabetic, since they can only show loss of carbohydrate tolerance—even though more subtle than with glucose loading alone.

With this knowledge of the categories into which any diabetic might fall, how does the life history of a person so affected appear? To borrow a phrase from Jackson, it seems to behave “like an iceberg”,¹ (Fig. 1) with the main body well beneath the surface and becoming a visible danger to the ship of good health only when overt manifestations are present. True, by our present definitions, a patient in the subclinical stage would only have to develop an infection, become pregnant, or have the pancreas stressed with steroids to expose the lack of beta cell reserve,^{10,11} but this again

would only tell us that carbohydrate intolerance already exists. What we really need is to be able to make the diagnosis early in life in the prediabetic period, because if

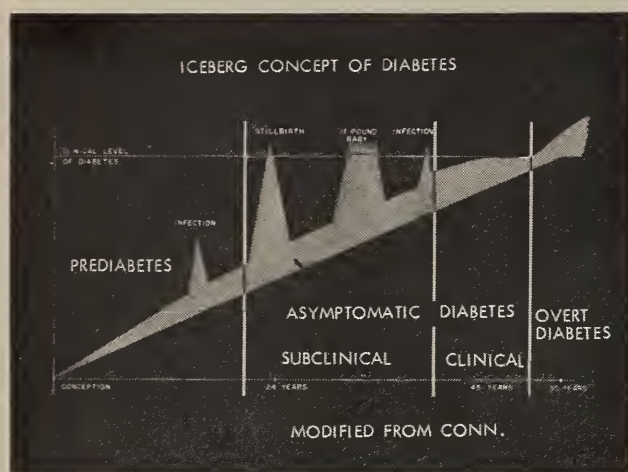


Fig. 1.

there is any reversible stage of the disease, it is logical to assume that this must be early, before permanent pancreatic damage has resulted.¹²

Potential Prediabetics

The next question we should raise is: What has been done to discover potential diabetics during their prediabetic period?

One fertile area of investigation has been in the field on non-diabetic mothers who later became diabetics, but did not have detectable disease during or prior to the pregnancy. Many things have been reportedly found in their offsprings, but the most universally accepted are:^{1,12-16}

1. Large babies
2. Increased perinatal loss
3. Hydramnios
4. Congenital malformations
5. Hypoglycemia of the newborn with islet cell hypertrophy

Of this group only the first and last would be useful in prognosticating the appearance of diabetes in any specific mother. If a baby weighs 13 pounds at birth, the predictability of eventual diabetes in the mother has been reported by White to be 90%; when 14 pounds or greater—100%.¹⁷

Other things such as toxemia of pregnancy in the mother and prematurity of the offspring are said by some to be increased in prediabetic pregnancies, but an absolute association has been denied by other workers.¹ It is interesting that multiparity itself seems to have a diabetogenic influence in those predestined to be affected.^{18,19}

More recently, attention has been focused on another group of patients whose clinical diabetes has been heralded by vascular disease of the type formerly considered to be a complication of diabetes.²⁰⁻²⁸ Small vessel lesions, described as microangiopathy, seem to be the common denominator of those complications. A few years ago we might have said that the presence of retinopathy, neuropathy, or nephropathy would not be found in advance of gross carbohydrate derangement, but now we can't be so sure. These reports have shown the existence of lesions in people who have had no previous findings suggestive of diabetes, but many of whom subsequently became diabetic.

These two populations of candidates for prediabetes offer interesting possibilities for future studies, but one could not feel comfortable making the diagnosis on either basis alone. The only person who can be known with any certainty to be a prediabetic is one whose genetic constitution fits this category.

We believe that susceptibility to diabetes is due to the presence of both of a pair of recessive genes—what we call the homozygous state.²⁹⁻³⁰ If this is true, the status of one's parents will determine whether or not he or she has the genetic predisposition for diabetes. (Fig. 2) If neither parent has the disease or both lack the heterozygous state, one would not expect any offspring to have it. If both parents were heterozygous carriers, one-fourth of the children would be expected to be affected. If one was diabetic and the other a carrier, half would be so predisposed. If both were diabetic, all progeny would be genetically liable to have diabetes. Other mathematical possibilities involve one parent's status being

known and the other's being presumed, based on the presence of the disease in close relatives of the unknown parent. This indicates the chance that the heterozygous state exists in that parent.³¹

Although genetic grounds suggest that the homozygous state is equivalent to diabetes itself, by no means have all of the people in this category been found to be

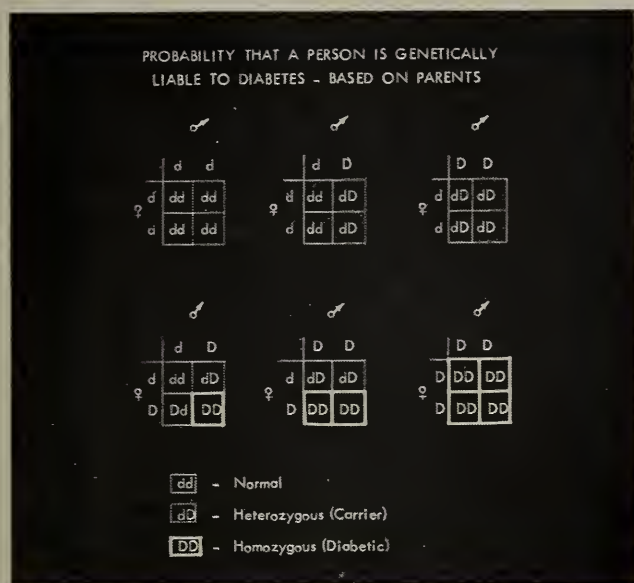


Fig. 2.

diabetic.^{10,32} All that we can say is that this group is maximally susceptible to diabetes on genetic grounds.³³ Other factors seem to have a provocative influence, like obesity, age, and parity. Finally, a person in this group who dies in an automobile accident at age 50 and has not manifested the disease cannot be said to disprove the recessive thesis, nor can premature death at the same age from coronary artery disease without demonstrable diabetes be considered adequate evidence against it. We are, therefore, left with a prediabetic group which we can study for evidence of body dysfunction prior to disturbed carbohydrate metabolism. This includes any person with two diabetic parents or a diabetic identical twin. The other etiologic associations, noted with mothers of large babies or nondiabetic persons with diabetic complications, do not seem to be on theoretically predictable enough grounds for such studies at this time.

Prediabetic Abnormalities

A group of 58 genetically prediabetic individuals has been studied by Camerini-Dávalos and his group,³⁴ and preliminary reports reveal that certain areas have not rewarded them with abnormalities. These include:

1. Carbohydrate metabolism
2. Clinical renal status
3. Neurological status
4. Vascular status (certain areas)

Anatomical studies which they found to be abnormal were of a vascular nature and include the following:

1. Venule—arteriole ratio in the Bulbar conjunctivae, which is increased.
2. Changes in ear lobe biopsies
 - a. Constriction of dermal capillaries
 - b. Separation of the potential space between the basement membranes and the epithelial cells of the venules
 - c. Fragmented elastic tissue
3. Changes in renal biopsies
 - a. Patchy thickening of the glomerular basement membrane
 - b. Irregular thickening of the parietal layer of Bowman's capsule.
 - c. Thickening of the PAS-positive material in certain glomerular vessels
 - d. Thickening of the PAS-positive material in certain tubular basement membranes.

There has been acceptable evidence that the substance which forms the nodular renal lesion is a glycoprotein.³⁵ The liver of diabetics has been shown to contain less glycogen than that of normal controls.³⁶ Spiro postulates (Fig. 3) that since insulin is necessary for the metabolism of glucose to glucosamine, it seems odd that this equation does not appear to be unbalanced in diabetics. He suggests that in insulin deficiency the glycogen pathways are blocked while glucosamine is preferentially formed. Cells

which usually manufacture glycoproteins may make increased amounts or abnormal molecules. It is believed that the epithelial cells of the glomerulus normally make base-

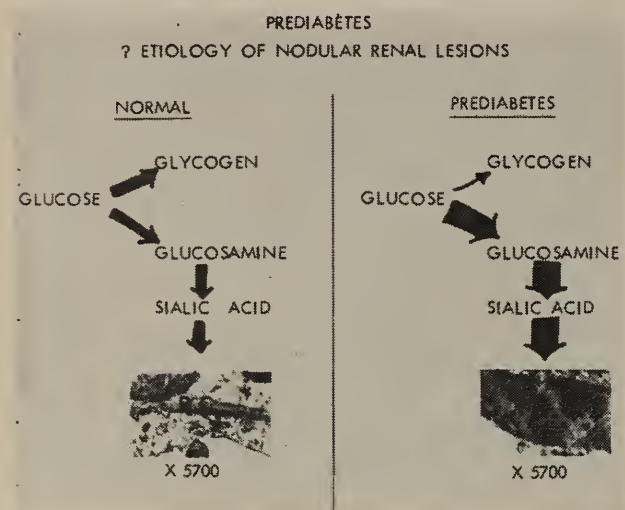


Fig. 3

ment membrane,³⁷ which in diabetics could be defective or increased in quantity. In any event, glycoprotein production seems to be closely related to the nodular lesions. Sialic acid, the glycoprotein which some feel to be the basic material in normal basement membrane and in these nodules, has been shown to be elevated in prediabetics.³⁸

One of the basic tenets on which the pathogenesis of diabetes had been acceptably explained until a few years ago, was that diabetics lacked insulin—some more than others. Therapy with insulin was empirically thought to be replacement for what was missing, and treatment with sulfonulureas stimulatory to an ill but not moribund pancreas.

When substances with activity similar to insulin—what we now call insulin-like-activity—were found to be normal in adult-onset diabetics by the rat diaphragm method,³⁹⁻⁴² and later also elevated in both the adult and youth-onset types by the adipose tissue method,^{43,44} a complete reevaluation of the pathogenesis of diabetes was needed. To stay within the scope of this paper we will have to bypass the important contributions to the area of insulin antagonism or binding by Yalow and Berson,^{45,46} Vallance-

Owen,^{40,47} Antoniades,⁴⁸ and others, and accept the bulk of growing evidence that diabetes is at least associated with, if not indeed due to, an abnormal state of insulin in the blood.

In 1961 reports began appearing showing elevated levels of fasting insulin-like-activity in genetic prediabetics,⁴⁹ not unlike those seen in the overtly diabetic group. When an intravenous infusion of glucose was given, the prediabetics had a very sluggish rise in insulin-like-activity,^{50,51} while the control group had an acute increase of five times the baseline. This showed a failure to respond to glucose, but it must be remembered that the prediabetics' fasting activity was already higher than the controls', and perhaps represented a maximal output of insulin by the pancreas of these individuals before the glucose infusion. Other recent reports have shown that in five of six prediabetics, insulin after an overnight fast was predominantly in the bound state.³⁴ This was similar to the findings in normal persons. In the normal, however, I.V. glu-

TABLE 2

1. Increased venule-arteriole ratio in bulbar conjunctival biopsies.
2. Capillary, basement membrane, and elastic tissue changes, in ear lobe biopsies.
3. Changes in the glomerular and tubular basement membranes in renal biopsies.
4. Increased levels of sialic acid.
5. Increased fasting levels of insulin-like-activity.
6. Incomplete dissociation of bound insulin after intravenous glucose.

cose caused a rapid increase in the free, or biologically active insulin, while in the prediabetic group the rise in the free form was less extensive, and the fall in the bound less rapid. All of this gives us a picture of a group of people with increased insulin in the blood, which is biologically inactive and is slow to meet the body's needs when acutely stressed with a carbohydrate load, because it is unable to free itself from the binding which inactivates it.

A summary of the more definite abnormalities found in this group may be found in Table 2.

Management

With this information can we find a comprehensive hypothesis to explain all the above findings? The answer as of today is probably not. One would suppose that the anatomical changes noted in the ear lobes, bulbar conjunctivae, and kidneys are bona fide evidence that irreversible damage to the small vessels has already occurred as early as the prediabetic stage. What is of considerable interest is that electron microscopists working with these tissues have seen these lesions disappear in subsequent biopsies of the same patient, without any change in clinical status.⁵² Perhaps then, what we might have thought to be permanent vascular damage has not reached that point in this group. Of course this makes us pause to wonder whether any of these findings mentioned so far will stand the test of time. Again, we cannot say now, but believe that this is a rational beginning in the right direction.

What can we do about the genetically liable group? I believe we can say that until the mechanisms are definitely known there can be no ideal approach, and whatever we suggest must be pure speculation.

The only reported information we have is that some clinicians have given insulin to their pregnant prediabetics,^{53,54} in addition to treating their diet and delivery as if they were diabetics.^{1,55,56} This has resulted in better survival figures for the offspring, but the effect on the mothers has yet to be evaluated. Whether therapy with insulin would be beneficial in retarding the onset of overt disease in nonpregnant subjects is open to question.

Tolbutamide has been used for a few years to treat asymptomatic diabetics, and the reported results have been encouraging, with normalization of carbohydrate tolerance in some.⁵⁷⁻⁶⁰ The long term results may be less successful.⁶¹ It has been known that when given orally, tolbutamide stimulates the pancreas to produce insulin and deliver it into the bloodstream.^{62,63} More recent

studies suggest that pancreatic insulin is stored in a bound or inactive form which, when liberated by tolbutamide seems to be freed of its binding, either locally or peripherally, but in any case is available as useful insulin.^{64,65} If these reports are valid it would seem reasonable to treat genetic prediabetics with tolbutamide,^{33,66} which would theoretically act to spare the pancreas from its incessant stimulation to produce a biologically acceptable insulin. Even if this did not alter the eventuality of clinical diabetes, one might still expect a longer period before carbohydrate tolerance is lost.

Where obesity is present in any of the people we have been discussing, normalization of weight would seem a valid attempt at lessening a stressful situation to the pancreas.^{33,67} Where overweight is not a problem there is some theoretical reason to believe that a lessening of high carbohydrate diets might remove a burden upon beta cell reserve.⁶⁸

Finally, we wonder what effect higher centers have on all of this. Many are treating diabetic retinopathy with surgical hypophysectomy,^{69,70} yttrium implants⁷¹ and more recently with freezing methods by cold probe.⁷² Might not an attack on the pituitary or hypothalamus in the prediabetic years be preventative, rather than palliative?

All of these are theoretical considerations, which in today's light seem plausible, but certainly not definitive. We are still in the toddling infancy in our evaluation of this phase of the disease. With this knowledge as our foundation we can begin to work towards the maturity of understanding that will eventually uncover the innermost secrets which compose the pathogenesis of diabetes mellitus.

Prediabetes is a state which is not normality nor yet a disease, but certainly there!

Editor's Note: References are not published in the Monthly but may be obtained in a reprint from Dr. Edwin M. Newman, 5700 West Grace Street, Richmond, Virginia.

*Medical College of Virginia.
Richmond, Virginia*

Current Concepts of Diabetic Nephropathy

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Diabetic glomerulosclerosis is a feared and frequently seen complication of long standing diabetes.

THIS YEAR marks the bicentennial of the first reported detection of proteinuria in patients with diabetes mellitus.¹ In these two centuries, largely in the past three decades, untold numbers of publications have contributed to our information, if not our understanding, of the renal disease which afflicts diabetics, yet our knowledge of the fundamental nature of diabetic nephropathy remains fragmentary.

We recognize that the term diabetic nephropathy, in its broadest sense, encompasses arterio- and arteriolar sclerosis, acute and chronic pyelonephritis and medullary necrosis or necrotizing papillitis.² There is excellent evidence attesting to the increased frequency of these lesions among diabetics, and I shall not dwell upon these; they are not, of course, limited to the diabetic. The tubular glycogen deposits of Armanni and Ebstein³ are a little seen anatomic curiosity of no clinical significance. Foremost in our thoughts is diabetic glomerulosclerosis, hereinafter termed DGS, and it is this entity, or perhaps group of entities, which I should like to review.

Discussions regarding etiology currently revolve around two arguments. First, is DGS a genetically ordained process accompany-

ing, not necessarily in parallel, the abnormalities of carbohydrate metabolism, or is it in some manner a result of carbohydrate intolerance? Secondly, if the latter, just what factors lead to the proclivity of some patients to develop these lesions with yet others spared for long periods?

Two lines of evidence converge on the first question, but not yet definitively. Many investigators have failed to find DGS in patients with secondary diabetes, among them Rifkin, et al.,⁴ examining patients with anterior pituitary or adrenal cortical hyperfunction, and Lonergan and Robbins⁵ studying 62 patients with hemochromatosis and diabetes. However, Becker and Miller,⁶ in 22 patients with hemochromatosis and diabetes, found seven patients with typical DGS, six of whom had no family history of diabetes. Several isolated reports of DGS appearing in patients with diabetes following chronic pancreatitis^{7,7B} are impossible to evaluate from the published material, but further the suggestion that acquired diabetes may occasionally lead to DGS, thus possibly removing genetic induction from the exclusive position it generally holds.

On the other hand two studies, those of Daysog, et al.⁸ and Rosenbaum,⁹ have claimed to demonstrate typical DGS in renal biopsies of pre-diabetic subjects as defined by prednisone-altered glucose tolerance, premature vascular aging, family history and other criteria. The former found what were interpreted to be early but typical nodular lesions in four of 11 patients studied, and the latter found suggestive focal lesions in two children. The specificity of the histologic abnormalities is open to considerable question and cannot be confirmed from the published photomi-

Presented in part at the annual meeting of the Virginia Diabetes Association in conjunction with The Virginia Academy of General Practice, Norfolk, May 8, 1964.

crographs. We look upon these reports with some skepticism, yet if they are valid, they are extremely important observations with obvious implications.

If we conclude, then, that overt diabetes plays a salient, but perhaps not exclusive, role in the development of DGS, what is this role? Both duration of diabetes and adequacy of its control have their champions, and probably both are correct. Surely the duration of the disease in the individual must have important bearing, but it is a variable one among groups, probably not independent of other factors. Wilson, et al.,² Johnsson,¹⁰ and others feel that excellent diabetic control can at least retard the development of nephropathy, and as this is an at least theoretically attainable goal, it is the only tenable position to hold lacking incontrovertible proof to the contrary, not yet at hand.

What can we say about pathogenesis? Here we are rather helpless at present. That the glomerular lesions are the result of nephrosclerosis is unrealistic for many reasons, though the coexistence correlation is high.¹¹ Interest in the supernormal plasma polysaccharide¹² and glucosamine¹³ concentrations found in diabetics has not proven fruitful, though these substances may form the bulk of the glomerular and arteriolar lesions. Recent studies by Berns and his group,¹⁴ although leaving some questions unanswered, suggest that DGS is immunologic in origin, with insulin acting as antigen. Earlier workers felt that this might explain the paucity of DGS in diabetics living in the pre-insulin era, and the tardy elucidation of its morphologic features. Perhaps we shall hear more of this.

Although recognition of DGS is quite secure on histologic grounds, its morphogenesis is far less so. You will recall that two variants exist—the diffuse lesion of Bell¹⁵ which may appear alone, and the classic nodular lesion of Kimmelstiel and Wilson,¹⁶ morphologically intriguing, which

probably is always accompanied, and preceded, by the diffuse lesion.

While basement membrane thickening is generally agreed to be the earliest apparent morphologic alteration in the glomerular wall, there is divided opinion as to its origin. Some¹⁷ cast the blame on the endothelial cell, which metabolically maintains the basement membrane. Others^{18,19} feel the basement membrane itself is primarily at fault. Although refutation of the term intercapillary glomerulosclerosis has been popular, McManus²⁰ and, of course, Kimmelstiel²¹ himself, still advocate the original mesangial or axial site of origin. Finally, Lynch²² feels the nodular lesion is aneurysmal in origin, the renal counterpart of the retinal lesion.

Furthermore, disagreement continues regarding the relationship of the diffuse lesion and the nodular K-W lesion. Farquhar¹⁷ and Salomon²³ feel that the nodule represents a progression of the diffuse lesion, while others think the two to be distinctly different in origin.

Lastly, it is appropriate to reiterate that nodular DGS may, for practical purposes, be considered a specifically diabetic lesion, if expertly viewed.¹⁹ A number of exceptions to this have been recorded, but none is incontrovertible. Diffuse DGS probably can be specifically identified under ideal circumstances.¹⁸

Clinical accuracy in predicting the presence of diabetic glomerulosclerosis varies with one's diagnostic criteria. The typical syndrome of hypertension, nephrotic syndrome and renal failure in the diabetic patient is well known to all, and in this context DGS will usually be found. It is true, however, that the anatomic lesion may exist without this classic syndrome,²⁴ and on the other hand the syndrome of renal failure and nephrotic syndrome in a diabetic may be simply due to other forms of glomerular disease.²⁵ It is important here to recall that the more dramatic nodular lesion seems to be of less functional significance than the

diffuse one, in terms of responsibility for renal failure and nephrotic syndrome.¹⁸

The clinical significance of DGS may be looked upon from two standpoints. The often cited tendency of diabetes to ameliorate as renal disease progresses has caused great heat and little light. Zubrod, et al.²⁶ concluded that patients with Kimmelstiel-Wilson lesions pursued a course, metabolically different than that of diabetic patients with other forms of renal disease, typified by pre-terminal improvement of their carbohydrate intolerance. Such amelioration has been reported by others,²⁷⁻³⁰ the consensus being that any of the several varieties of far advanced diabetic nephropathy, but not specifically nodular DGS, might be associated. Hennigar,³¹ dissenting, found no alteration in the severity of diabetes in 40 patients with DGS. The variations in recorded clinical and laboratory data and detailed morphologic information render the extraction of any fundamental truth from these reports exceedingly difficult.

It is noteworthy that azotemia, representing the balance between dietary and metabolic nitrogen load and renal function, was not generally of notable magnitude, while proteinuria seemed, not unexpectedly, to be almost uniformly heavy. While diminished caloric intake is perhaps the most favored cause of this apparent metabolic improvement, it is interesting to speculate on two possible pertinent lines of thought. That insulin degradation takes place in the kidney³² might explain a heightened sensitivity to insulin in certain subjects with loss of functional renal mass. The observation of Kalant, et al.,³³ that alloxanized diabetic rats rendered nephrotic but not azotemic with nephrotoxic serum underwent amelioration of their diabetes, coupled with current interest in insulin binding factors in plasma, presumably proteins which may be lost in significant quantities through massive proteinuria, suggests another approach.

While the opinions thus conflict, it would

appear that such amelioration may occur as to require significant alteration in the patient's therapeutic program. It is appropriate here to recall to your attention a distinctly different, though possibly important, abnormality, the frequent appearance of postprandial hyperglycemia which we have termed azotemic pseudodiabetes,³⁴ as a result of advanced renal failure, a situation still under study in our laboratory.

Of great importance are the prognostic implications of DGS. Most agree that from the time of appearance of massive proteinuria, mean survival will be brief—in our own series 3.3 years with death resulting from uremia.²⁵ Others have reported mean survival times up to seven years.³⁵ Obviously, the earlier the lesion is detected, and the less severe the presenting abnormalities, the longer the apparent survival will be.

With respect to treatment, it is unfortunate but true that at present we have no specific means of averting or slowing the progress of DGS. A number of studies evaluating the effect of hypophysectomy upon diabetic retinopathy have included sketchy information about the course of nephropathy in the same patients. In a few patients it was inferred that the renal functional deteriorations slowed or stopped, but follow-ups were brief. Mild proteinuria disappeared in three of ten patients studied by one group,³⁶ but the subsequent finding in another series³⁷ that glomerular filtration rate and proteinuria consistently fell following hypophysectomy, together with the recognized importance of glomerular filtration rate in patients with glomerular proteinuria, render this finding merely of provocative, not conclusive, importance. A few sporadic observations of the affect of proteolytic enzymes given systemically to patients with DGS have been encouraging, in that proteinuria has diminished considerably in several.^{24,25,83} Much more experience is needed before conclusions regarding this can be reached.

Treatment thus is limited to comprehen-

sive symptomatic care. Congestive heart failure is an important problem in many of these patients and occasionally is not grossly obvious. Indeed, myocardial failure was included among the diagnoses of four of the eight patients described by Kimmelsiel and Wilson.¹⁶ Digitalis, salt restriction and the various non-mercurial diuretics, with care to avoid salt depletion, can be judiciously used to advantage. The diet should contain ample protein in those without significant renal failure, and should otherwise be tailored to their diabetic needs. Later, progression of azotemia may be lessened by protein restriction, which is then better tolerated by the patient because of the usual diminution of proteinuria with progressive renal failure; there is little reason to fear the adverse effect of protein depletion over long periods with a diet containing 45 grams of protein daily in the average-sized adult.

Appraisal of the adequacy of control of diabetes cannot, of course, rely on the degree of glycosuria in patients with renal failure; this makes frequent fasting and postprandial blood sugar determinations of great importance. It is here that a major contribution

to DGS may reside, the vicious circle of renal failure, poor control because of inadequate evaluation, and more renal failure being set up.

We have already referred to the possibility of the amelioration of diabetes with progression of renal failure, and the importance of this awareness so as to avert hypoglycemia.

In conclusion, it is apparent that much remains to be learned about the causes, nature, and treatment of this group of disorders. It is true here, as elsewhere in medicine, that our greatest hope for the future probably rests in attempts to prevent the complication. Here the role of the family physician is of prime importance, as it is he who deals with the early and yet uncomplicated diabetic patient to whom precise diabetic control is likely to be of such great importance.

Editor's Note: References are not published in the Monthly but may be obtained in a reprint from the author.

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The FDA—Inundated and Deteriorated?

The new law gave the Food and Drug Administration authority over the efficacy of drugs in addition to its original assignment, the safety of drugs. This is a responsibility that FDA was not prepared to assume. In a system of free enterprise, this responsibility belongs to the medical profession alone and not to an agency of the government. Under this new assignment, the FDA has wavered, procrastinated and quacked with indecision on rulings which often they are unqualified to make, owing to the multifaceted areas of medical science and medical practice involved. In addition, the volume of work has become so enormous that the staff has become inundated by its size and complexity. Time lags in getting information from the FDA have appallingly increased. The image of the FDA has deteriorated in the eyes of the pharmaceutical industry with which it is importuned to do its most vital and significant work.—John C. Krantz, Jr., Ph.D., in *Military Medicine*, 130:1, (Jan.) 1965.

Pancreatic Islet Cell Tumors

Report of Six Cases

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Insulin producing tumors of the pancreatic islet cells are rare but are serious lesions. Their presence can usually be established by the proper tests. Although operative mortality is high, the patient can be restored to normal by their successful removal.

A PERSON is brought to the doctor confused, or speaking in a monotone with an expressionless face and aimless movements, or totally unconscious. This presents a real problem. If the person is old, or moderately so with hypertension, one suspects cerebrovascular disease. Younger people are less suspect, and at any age one should look for other conditions.

Knowledge grows slowly and each part is built on previous bits of information. However, with this particular condition the unfolding of the entire picture occurred within a few years due to the astute observations and investigations of a few doctors.

In 1921 Banting and Best discovered insulin and described the symptoms of low blood sugar from an overdose of insulin. In 1923 Harris noted that people not taking insulin occasionally suffered from such attacks. This observation was reported as "hyperinsulinism" at the meeting of The Medical Society of Virginia in October

1923.¹ These symptoms included weakness, nervousness, hunger, and sweating.

In 1927 Wilder et al. reported a case with recurring attacks of convulsions and unconsciousness associated with hypoglycemia due to a carcinomatous tumor of the pancreatic islet cells. In 1929 cure of a patient with hypoglycemic symptoms by removal of an islet cell tumor was reported by Howland et al. Since then, many reports of such tumors have been made.

In 1951 in "The Banting Memorial Lecture", Whipple reported 39 cases explored for islet cell tumors in whom 43 tumors were found, of which 13 were considered at least questionably malignant. The operative mortality was 18%. His criteria for preoperative diagnosis were three-fold.

1. Spells during fasting or after exertion.
2. A blood sugar level below 50 mg. (Folin-WU)
3. Recovery after the administration of sugar.

We present six cases of islet cell or pancreatic insulin tumors. Although rare, they are real and present a diagnostic and therapeutic challenge that justifies a review of the information we have about them. We shall present briefly the case records and then mention the salient points we have encountered in them.

Case No. 531. A woman fifty-seven years of age gave a history of unconscious spells and at times apparent drunk driving of ten years duration. At first the interval between spells was six months; but later they were only a week apart, and at times she remained unconscious for twelve hours. The spells occurred three to four hours or

Presented at the Annual Meeting of the Virginia Diabetes Association, Norfolk, May 8, 1964.

more after food, one occurring before breakfast.

The glucose tolerance test showed a fasting blood glucose of 25mg. rising to 115mg. after glucose and falling to 33mg. in three hours.

Prolonged fasting showed a blood glucose of 13 to 20mg. and unconsciousness occurred.

At operation a 1/2 inch islet cell carcinoma of the pancreas was removed. Within minutes after removal, the blood glucose rose to normal and within three hours was 204mg. and insulin was injected. The patient died 40 days after operation with an abscess of the pancreas.

Case No. 899. This woman, fifty-six years old, had a history of unconscious spells for nine years. The family had noted hunger preceding the spells and that food tended to relieve her but did lead eventually to obesity.

Five years before operation, a tentative diagnosis of epilepsy had been made and two years before operation she had been committed for insanity.

The glucose tolerance test showed a fasting blood glucose of 55mg. rising to 160mg. and still 136mg. at two hours, indicating mild diabetes. However, the five hour value had dropped to 23mg.; and with prolonged fasting, the blood glucose dropped to 16 mg. and was associated with unconsciousness.

At operation, an islet cell adenoma was removed. Again the blood sugar rose above normal and insulin was required for a few days. Recovery was uneventful and the patient remained well.

Case No. 1667. A fifty-one year old woman had a history of mild spontaneous insulin reactions at the age of forty-seven. She found that food gave relief and she gained from 169 pounds to 256 pounds. Soon she experienced spells of unconsciousness with convulsions, increasing in frequency to once every five days. With prolonged fasting the blood glucose remained below 18mg.

Operation elsewhere disclosed no tumor and nothing was done.

After eight months of a weight reducing regime, we operated and removed much of the pancreas in which an islet cell adenoma was found.

The blood glucose rose to 1150mg. and insulin was required for ten days.

Today the patient is fat and well at the age of fifty-six years.

Case No. 1707. This forty-four year old man had symptoms for four years, beginning with sweats and a feeling of being "woozy". At times he couldn't wake up. Finally, spells of confusion occurred almost daily before breakfast. In one unconscious spell the blood glucose was 23mg.

Prolonged fasting was associated with blood sugars of 28, then 44 and finally 26mg.

A malignant islet cell tumor was removed but the patient died with acute pancreatitis and chemical peritonitis.

Case No. 1748 was a sixty-three year old man with a history of weak, sweaty and finally, unconscious spells of only one year's duration. He was admitted to a psychiatrist who found by routine laboratory work a blood glucose of 13mg. and by routine intravenous glucose recovery of mentality and referred him to the internist. The blood glucose dropped to 10mg. and once to zero.

A malignant islet cell tumor was removed, but the patient died with acute pancreatitis and an abscess of the great omentum.

The sixth case, *No. 1790*, at the age of forty-seven, had his third pancreatic operation and only part of an islet cell adenoma was removed.

Unconscious spells and intermittent confusion associated with low blood sugar continue in spite of a seven meal diet and glucagon. Due to great obesity and many adhesions at the last operation, the surgeon refuses another attempt. The blood glucose still falls as low as 24mg., and yet the man works daily in spite of daily hypoglycemia for the past 18 years. He had the first oper-

ation after two years of symptoms and obtained no relief, the second operation 12 years and the third operation 14 years after the onset of the disease. He is now 51 years old, the symptoms having started at the age of 33 years.

The above cases would seem to justify a few comments.

A satisfactory life for the family or the patient with an existing islet cell tumor seems difficult at least, and the patient seems to be a menace to himself, and to others if he drives a car.

The diagnosis seems to be difficult and long delayed. The shortest interval between onset of symptoms and diagnosis was one year, the range between one year and 10 years. The patients range in age at onset between 33 years and 62 years.

The clues to the diagnosis might be a lucky history of onset of symptoms with an empty stomach and relief by food, vague behavior in patients not previously disturbed, the disturbance being intermittent, at least in early stages, routine tests of the blood sugar, and finally the dramatic response of a patient who is getting intravenous glucose for routine reasons.

The basis for the diagnosis of an insulinoma seems best to rest on *unconscious spells associated with a blood glucose of less than 30mgs.* One may mention that the recognition of unconsciousness is not easy. The patient walks and talks without proper knowledge of his acts or words. Two of the patients were referred to a psychiatrist.

One is justified in testing the blood sugar repeatedly, especially after prolonged fasting. Unless *many* readings below 30mg. are obtained, some of which are associated with unconsciousness which is relieved by sugar,

operation could be recommended only with reservations.

Operation was not advised in one man, No. 1289, because a very low blood sugar was not found. Two operations elsewhere with removal altogether of all the body and tail and part of the head of the pancreas failed to disclose a tumor.

Of the six patients, three died from the operation. It may comfort us to know that the three were the ones with malignant tumors, but that does not alter the fact that the operation is difficult and dangerous. We may remember also that in several cases the blood sugar after operation rose markedly and that this transient diabetes without adequate control may contribute to infection and death. Intensive post-operative medical care seems indicated, even though chemical damage from the pancreatic ferments may be the chief adverse factor.

Although the condition is rare, it is a very serious one and one that responds completely to the complete removal of the tumor if the patient survives the operation. An awareness of the condition, proper tests to prove it, and proper surgery and pre- and post-operative care should improve the results we have obtained in the past.

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Principles in the Use of Insulin and Oral Agents in the Treatment of Diabetes

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Several types of insulin as well as several different oral agents are available for use with the properly calculated diet in the treatment of diabetes. Much can be done toward preventing the complications of diabetes when accurate control is maintained by the appropriate use of diet and drugs.

IN PLANNING the treatment of diabetes with insulin or oral hypoglycemic agents, the severity of the diabetes is the most significant single factor to be considered. One must understand the therapeutic possibilities and limitations of the various hypoglycemic agents and how these properties are influenced by the severity of the case to be treated.

A basic feature of good therapy, with either insulin or oral agents, is an appreciation by the physician and the patient of the importance of day-to-day constancy in diet. Without this constancy, no hypoglycemic agent can be maximally effective. The diet must be planned for the individual patient, and then the patient must be in-

structed, either by the physician or by a dietitian, in the use of the diet. Some relative, preferably the spouse of an adult patient or the mother of a child, should also receive this instruction. Motivation to follow the diet should be stimulated in the patient, and this is best achieved by regular and fairly frequent contacts between physician and patient.

Certain objectives of treatment should be recognized by the physician and understood by the patient. In a word, the objectives are avoidance of the whole gamut of complications of diabetes—early and late, acute and chronic. These are worthy goals to strive for and constitute a challenge for both physician and patient.

Correction of the most obvious abnormal chemical features of diabetes—glycosuria and hyperglycemia—is the most practical measure of the success of therapeutic efforts. Ideally, the urine should be kept free of glucose and the blood glucose concentration should be kept in or near the normal range. However, compromises in chemical control are unavoidable in the best interests of some patients if other important objectives are to be achieved. The patient should not be penalized by frequent or severe insulin reactions in an overzealous effort to keep the blood and urinary sugar values normal. Neither should a therapeutic program be recommended which is intolerably inconvenient to the patient or which distorts his whole life if he is compulsive enough to follow it. However, the necessity for compromise in a few patients should not encourage laxity in the management of the majority of diabetics for whom such compromises are not necessary.

From the Section of Medicine, Mayo Clinic and Mayo Foundation.

Part of the Symposium on Diabetes Mellitus sponsored by the Virginia Diabetes Association and Virginia Academy of General Practice, Norfolk, Virginia, May 8, 1964.

Guidelines in the Estimation of Severity

There is a broad spectrum of severity of diabetes. Early estimation of probable severity provides a basis for planning the program of treatment and discussing it with the patient. Colwell¹ has described useful guides in the estimation of severity in individual cases:

1. As a rule, the earlier in life diabetes is recognized, the more severe it is likely to be. Likewise, the longer the duration of diabetes, the more severe it is likely to be.

2. The intensity of symptoms and signs in the absence of treatment tends to relate directly to severity. Thus, the more rapidly weight is lost, the more marked the thirst and polyuria, the more frequent the occurrence of ketogenic acidosis, and the higher the levels of sugar in blood and urine, the more severe is the diabetes. There are exceptions; for example, the diabetes of some adults may initially appear to be severe but, with careful management, may later prove to be mild.

3. Thinness tends to accompany severe diabetes, and obesity, mild diabetes. Certain exceptions to this generalization should be noted. The lean, young patient with severe diabetes who takes excessive doses of insulin and becomes obese as a result of overeating to avoid or correct hypoglycemia is not converted to a mild diabetic. Similarly, the mild diabetes of an obese adult is not changed to severe diabetes by loss of weight; on the contrary, the diabetes tends to become even milder as the patient becomes leaner.

4. A direct index of severity is the readiness with which glycosuria, ketonuria, and insulin reactions result from irregular food intake, error in insulin dosage, unusual exercise, and stressful situations such as intercurrent illness.

The daily "requirement" for insulin is not always a valid criterion of severity. It is true that diabetes which is consistently controllable by a small dose of insulin (say, 10 to 20 units daily) is likely to be milder

by all standards than diabetes which requires the use of large doses. However, a patient who takes and tolerates 100 units of insulin a day may have milder diabetes by all other criteria than does a patient who requires much less insulin. A distinction must be made between "requirement" and "tolerance" for insulin, for many patients tolerate but do not actually require the amount of insulin they receive. This is particularly true of adult diabetics, but some adolescents and young adults fall into the habit of taking an excessive dose and learn to "eat up to it" as a means of avoiding severe insulin reactions.

Therapeutic Requirements as Determined by Severity

The several criteria of severity which have been enumerated provide valuable advance information regarding probable therapeutic requirements in the individual case. Proper dietary management, including dietary measures for weight reduction, is effective in about 50 per cent of all diabetic patients without resorting to the use of either insulin or oral hypoglycemic agents. The other 50 per cent require, in addition to control of diet, either an oral agent or insulin or, very rarely, a combination of the two. In recent years, we have become aware of an increased number of cases of mild asymptomatic diabetes, because of augmented detection efforts. In such cases, neither insulin nor the oral agents should be used for the purpose of providing license in diet. However, certain patients, who later prove to have basically mild diabetes but who had marked glycosuria and hyperglycemia at the time the diagnosis was made, benefit from the early temporary use of insulin because: (1) control, as well as the improvement in carbohydrate tolerance which accompanies restoration of normoglycemia, is hastened by insulin and (2) an opportunity is provided for indoctrination of the patient in its use which may become necessary again later.

Patients who have more severe diabetes which cannot be controlled by diet alone can be subdivided into three subgroups on the basis of long-term requirements for insulin or oral agents: (1) moderate diabetes, (2) severe diabetes and (3) labile, unstable, or brittle diabetes.

Moderate Diabetes—Patients with moderately severe disease make up possibly 20 to 30 per cent of all diabetics. They are usually in middle life at the time of onset and, when first seen by a physician, have mild to moderate symptoms. Their diabetes is easily controlled, although diet alone does not suffice. These are the patients in whom the oral hypoglycemic agents are frequently effective; however, for a variety of reasons, studies published to date do not provide precise data on the frequency with which the oral agents are both effective and necessary. Too often these agents are listed as effective therapy in patients whose diabetes can be controlled as well by diet alone. The physician who prescribes the oral agents should not be satisfied with anything less than excellent control of blood and urinary sugar values. Neither should these agents be employed to the neglect of dietary management. Many patients with diabetes of moderate severity are better controlled with a morning dose of lente or NPH insulin, starting with approximately 20 units and adjusting upward or downward as needed. For such patients, insulin is a relatively simple form of therapy because they do not exhibit great sensitivity to its hypoglycemic effects and hypoglycemic reactions are not a major problem, even when precise control of the levels of sugar in blood and urine is maintained.

Severe Diabetes—The next grade of severity includes perhaps 10 to 20 per cent of the diabetic population. The group includes some children and young adults as well as other adults whose diabetes is of long duration. Precise control is more difficult to achieve for these patients than for patients in the preceding group. Patients with

severe diabetes are more sensitive to the hypoglycemic effects of insulin, and they have some susceptibility to insulin reactions if precise control of the level of sugar in blood and urine is attempted. Usually their diabetes can be controlled reasonably well by accurate control of diet and a single, fairly large morning dose (30 to 50 units) of one of the intermediate-acting insulins (lente or NPH). Midafternoon and bedtime feedings may be desirable for avoidance of insulin reactions. Such patients, by definition, are not responsive to the oral sulfonylurea drugs.

Labile, Unstable, or Brittle Diabetes—Fortunately, only about 5 per cent of all diabetic patients are in this category, which is associated with the greatest difficulties in management. Most of these patients are children, adolescents, or lean, young adults at the time of onset. They have lost virtually all automaticity in the utilization of foodstuffs, and there is almost no extractable insulin in the pancreas² or insulin-like activity in the blood plasma.³ They are sensitive to insulin and have unpredictable reactions. Ketosis and ketoacidosis occur readily. Minor variations in diet, exercise, insulin dose or even in the technic of injection of insulin may result in variations in control.

Since no program of insulin administration simulates accurately the normal release of insulin by the pancreatic islets, precise control of this type of diabetes is not possible without undesirable penalties, particularly frequent or severe insulin reactions. Some degree of hyperglycemia and glycosuria must be allowed simply because it is unavoidable. These patients are not responsive to oral agents, with the possible exception of some response to phenformin which will be discussed later. The goal of insulin treatment is to meet the peak requirements after meals and the lesser need during the night. Doses must be regulated to avoid insulin reactions, and the patient should be carefully instructed regarding the early recognition and treatment of these reac-

tions. He must be aware of the possibility of ketosis, particularly in association with intercurrent illness.

For many of these patients the most satisfactory program is two doses of lente or NPH insulin daily. Two-thirds to three-quarters of the total daily dose is given before breakfast, and remainder is given before supper or at bedtime. My colleagues and I prefer to use lente insulin because the duration of activity of each dose can be modified readily in accord with individual needs by the addition of semilente or ultra-lente to lente insulin. Whatever the schedule, hypoglycemia is to be avoided and some degree of glycosuria is inevitable. Protamine zinc insulin rarely, if ever, is used in the treatment of patients who have either severe or labile diabetes.

Treatment During Acute Complicating Illnesses

Complications, such as infections, mild acidosis, traumatic injuries, and surgical procedures, may alter the therapeutic requirements of diabetic patients and may increase temporarily the difficulty of control. A systematic and effective program of management in such emergency situations is that of Colwell,⁴ in which the day is divided into four six-hour periods. A dose of regular insulin is given every six hours (for example, at 8 a.m., 2 p.m., 8 p.m., and 2 a.m.), together with the standard meal containing 40 gm. of carbohydrate. The "meal" may be given either orally or parenterally, depending on the condition of the patient. At the conclusion of each six-hour period, a fresh specimen of urine is tested for sugar and ketone bodies to determine the effect of the preceding dose of regular insulin and to aid in the estimation of the next dose. A single daily dose of depot insulin may be continued, but chief reliance is placed on the doses of regular insulin given every six hours.

Comments on the Use of Oral Hypoglycemic Agents

In the past 10 years, these agents have been a tremendous stimulus to research in all aspects of diabetes. They have been a contribution to therapy, too, but probably not as great a contribution as their widespread use suggests. Because of their convenience and relatively low toxicity, they are being employed in the treatment of more diabetic patients than is necessary or desirable.

Adherence to three basic rules would eliminate much of the unwarranted use of the oral agents.

1. Do not use them unnecessarily in the treatment of patients with mild diabetes which can be well controlled by dietary management alone.

2. Do not use them as a device for providing license in eating, particularly in obese patients whose diabetes would become very mild if weight were lost through adherence to a reducing diet. It is recognized that some patients will not follow a prescribed diet, but the physician should be slow to approve the use of an oral agent in lieu of diet.

3. Do not be satisfied with anything less than excellent or near-perfect control of the blood and urinary sugar values. Unless an oral agent plus restriction of diet provides such control, a small morning dose of lente or NPH insulin is usually preferable.

On the other hand, the oral agents are clearly indicated for certain adequately responsive diabetic patients who would otherwise require insulin. Indications for their use, assuming they are both effective and necessary, are strengthened if the patient has physical disabilities which interfere with the proper use of insulin. These include marked visual impairment, Parkinson's disease with severe tremor, and a variety of crippling conditions. Some mentally retarded patients and the rare victims

of insulin allergy which does not respond to standard measures also should be treated with the oral agents, providing insulin is not necessary for satisfactory control.

It is wise not to discuss oral therapy, with the patient with newly discovered diabetes, as an ideal to be attained because this impedes his acceptance of insulin which may be required either currently or in the future. If it is clear that diet therapy alone will not suffice, the physician will usually be well advised to start with insulin and, if feasible, later change to an oral hypoglycemic agent, rather than follow the reverse sequence.

Oral Sulfonylureas—The ability of these substances to lower the blood sugar concentration depends chiefly on the presence of some insulin in the beta cells of the islets of Langerhans, which the drugs help to liberate, in some manner, into the circulation. Thus, they exert a hypoglycemic effect in some patients with relatively mild diabetes of adult onset; it is in such patients that there is an appreciable amount of extractable insulin in the pancreas⁵ and considerable insulin-like activity in the blood plasma.³ On the other hand, in the more severe diabetes which has its onset during the growth period, once the disease is well established there is minimal, if any, extractable insulin in the pancreas or insulin-like activity in the plasma and the sulfonylureas are incapable of lowering the blood sugar.

Clinical factors which favor, but do not guarantee, a response to the sulfonylureas are (1) onset of diabetes in middle age or later, (2) obesity, (3) absence of history of diabetic ketoacidosis, and (4) absence of ketosis on withdrawal of insulin. Unless therapy with a sulfonylurea eliminates the need for insulin injections, it should not be employed at all; there is no inherent advantage in combined therapy with sulfonylureas and insulin.

Hazards in the use of the sulfonylurea drugs are generally not difficult to avoid. The danger of development of ketoacidosis in nonresponsive patients after sudden with-

drawal of insulin must be borne in mind. Since accurate prediction of response to the sulfonylureas is not always possible, a change from insulin to one of these agents is preferably made in stages under close supervision. Hazards of toxicity are slight when the maintenance dose of tolbutamide or acetohexamide is limited to approximately 2.0 gm. daily (0.5 or 1.0 gm. before breakfast and before supper) and that of chlorpropamide to 0.25 gm. once daily.

Phenformin—This drug (phenethylbiguanide) is available as 25-mg. tablets with an effect lasting about eight hours and as 50-mg. capsules with a more prolonged effect. Unlike the sulfonylureas, this agent does not augment liberation of insulin from the pancreatic islets, and it would appear that its effects on carbohydrate metabolism are less physiologic in character than are the insulin-mediated effects of the sulfonylureas. While the mechanism of the hypoglycemic action of phenformin is not entirely understood, it is apparently associated with an increased rate of anaerobic glycolysis. A factor which limits its usefulness is a relatively high incidence of unpleasant side effects when an effective dose is employed, including anorexia, nausea, vomiting, weakness, lassitude, and an unpleasant taste in the mouth. The long-acting form of the drug is less likely to cause these effects than is the same dose of the short-acting tablets.

Phenformin initially gave some promise of increasing the stability of labile diabetes, possibly through a lowering of the insulin requirement. In my limited experience with this use of the drug, it has rarely been of significant value.

It would appear that, because they involve different mechanisms, the hypoglycemic effects of phenformin and of the sulfonylureas may be additive. A few patients in whom oral therapy is desirable and who respond to the sulfonylureas to some degree but not sufficiently to maintain good control of the blood and urinary sugar values can be satisfactorily managed by

combined therapy with the two types of hypoglycemic agent.^{6,7}

Summary

Severity of the diabetes is the most important single factor to be considered in planning treatment with insulin and oral hypoglycemic agents. Oral therapy should be employed only when it is clear that diet therapy, including a diet for weight reduction, will not suffice. Oral agents should then be used in preference to insulin only if they provide excellent chemical control of the diabetes. The sulfonylureas (tolbutamide, acetohexamide, and chlorpropamide) are usually preferable to phenformin. The most appropriate insulin program varies greatly in different cases, depending on the severity of the disease. Single-dose programs have been overemphasized in labile diabetes, and many of these patients live a more comfortable diabetic life on a program of morning and evening doses of lente or NPH insulin. Compromises in control of blood and urinary sugar values may be inescapable to avoid penalizing the patient by inducing frequent or severe insulin reactions or by advising complex therapeutic programs of an impractical character. In most cases, however, major compromises in control are not necessary.

TABLE

GOALS IN THE TREATMENT OF DIABETES

1. Avoid immediate consequences of uncontrolled diabetes:
 - a. Ketosis
 - b. Destruction of body protein

- c. Susceptibility to infection
 - d. Suboptimal general health
2. Avoid harm induced by therapy:
 - a. Frequent or severe hypoglycemic reactions
 - b. Unnecessarily compulsive attitude in conscientious patient
3. Prevent or postpone long-term complications:
 - a. Diabetic microangiopathy (retinopathy, nephropathy, and so on)—probably best prevented or deferred by accurate control of diabetes
 - b. Gangrene and ulceration of feet—best prevented by education in care of feet and accurate control of diabetes

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Roentgen-Diagnostic Value of Spasm of Certain Colonic "Sphincters"

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In the normal as well as the diseased colon there may be one or more "sphincters". These may simulate organic disease and may be a diagnostic aid or pitfall in the presence of organic disease.

THAT THE NORMAL COLON may have one or more organic-disease-mimicking "sphincters" is well known.⁵ The

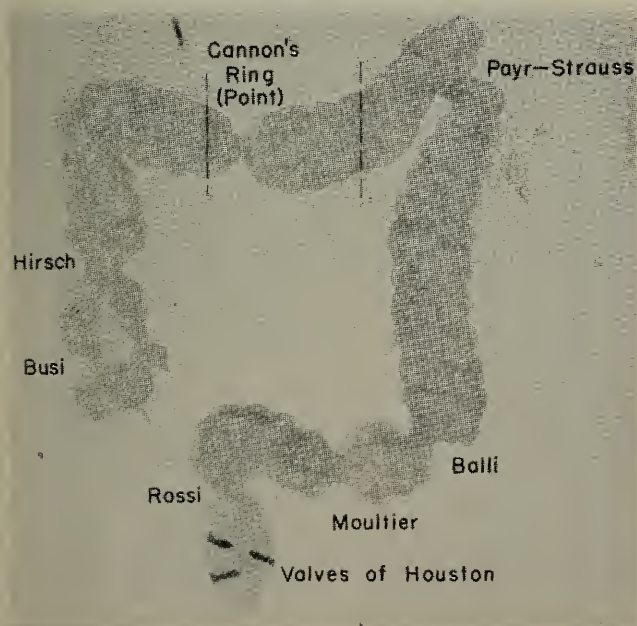


Fig. 1. Distribution of normal colonic "sphincters" (Reproduced by permission from: Templeton, A. W. Colon Sphincters Simulating Organic Disease. Radiology 75: 237-241, 1960).

purpose of this note is to demonstrate how increased activity of these "sphincters" may

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be a diagnostic aid or pitfall in the presence of organic disease.

Figure 1 illustrates the distribution of these inconstant "sphincters". Some are true anatomic structures composed of localized muscular thickening (Hirsch, Busi, Moultier) and some are functional in the sense that they have no anatomic counterpart (Cannon, Payr-Strauss, Balli, Rossi).

Cannon's point¹ is the best known example of the latter. It may present in three ways: a constriction ring in the proximal third of the transverse colon; the point of transition between dilatation proximal and contraction distal; dilatation distal and contraction proximal. It has been said to represent the level of cross-over from the superior mesenteric artery distribution to the inferior mesenteric with their corresponding autonomic nerves. Cannon's point may well play a role in the physiology of the mass evacuation reflexes of the colon (*point d'appui* of Barclay) and "may be the site of junction between the primitive midgut and hindgut and consequently marks the line of differentiation between the absorptive and storage function of the colon."³ Spasm at Cannon's point (as well as at the other "sphincters") has been described in appendicitis, gallbladder disease, and duodenal ulcer.² Cases of spasm at Cannon's point with appendiceal abscess and colonic cancer, not hitherto reported in the latter to my knowledge, are illustrated in Figures 2, 3, 4.

Hirsch's "sphincter" is a true one with anatomic counterpart. It is said to prolong retention of contents in the proximal colon until cecal digestion and absorption are complete.² Spasm in the presence of enteric

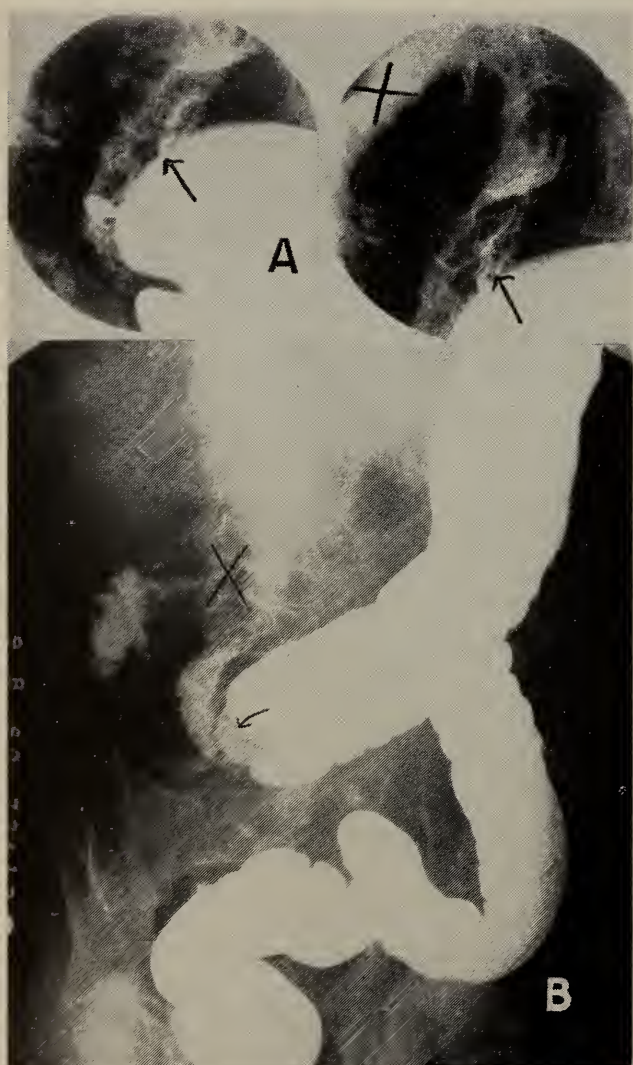
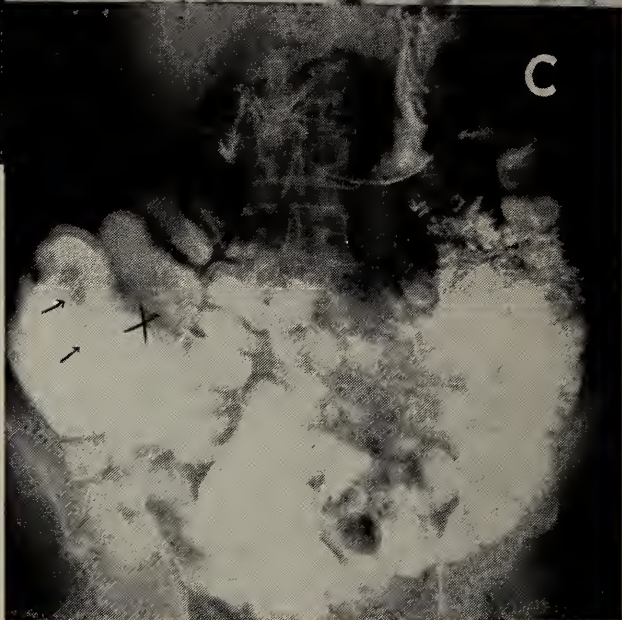
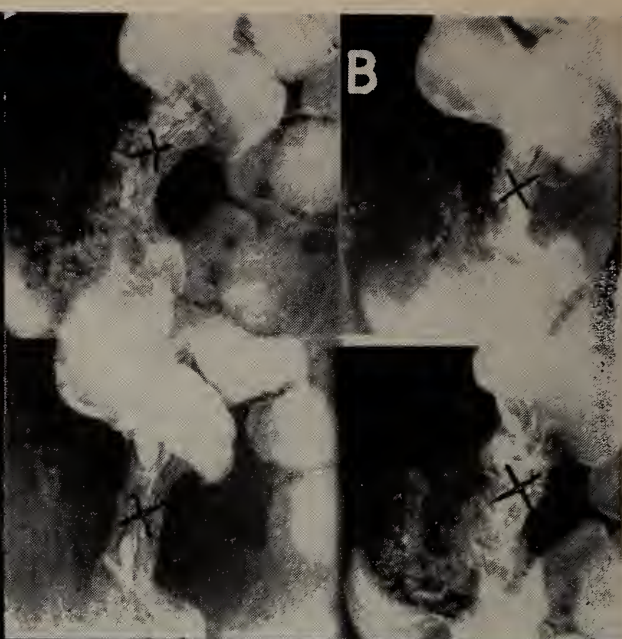


Fig. 3A. Spot-films made during fluoroscopy show point of narrowing (arrows) encountered in proximal transverse colon, considered during fluoroscopy the actual lesion,

Fig. 2A. Arrow indicates zone of spasm on evacuation study of the barium enema. Condition of cecum undetermined.

Fig. 2B. Two days later, barium given by mouth. Spot-films (conventional fluoroscope as in all of these patients except that in figure 4) show a constant segment of spasm assumed at the time of fluoroscopy to represent the lesion itself. Study of the films, however, shows normal rugae with no overhanging at either end of narrowing. This segment is in similar position to that indicated by arrow in 2A, the slight proximal displacement explained by distention of the lumen.

Fig. 2C. Shortly after 2B; Arrows indicate a filling defect in what is probably an upward-directed maldescended cecum. Radiologic diagnosis; cancer in maldescended cecum, with radiologic picture dominated by spasm at Cannon's point. Surgery: appendiceal abscess, retrocecal appendix, maldescended cecum; transverse colon normal.

completely over-shadowing the incompletely filled segment of obviously abnormal rugal pattern somewhat distally ("X").

Fig. 3B. Done shortly after the previous; persistence of point of narrowing (arrow), but large "apple-core" lesion demonstrated distally. Surgery: carcinoma in proximal transverse colon; rest of transverse colon normal.

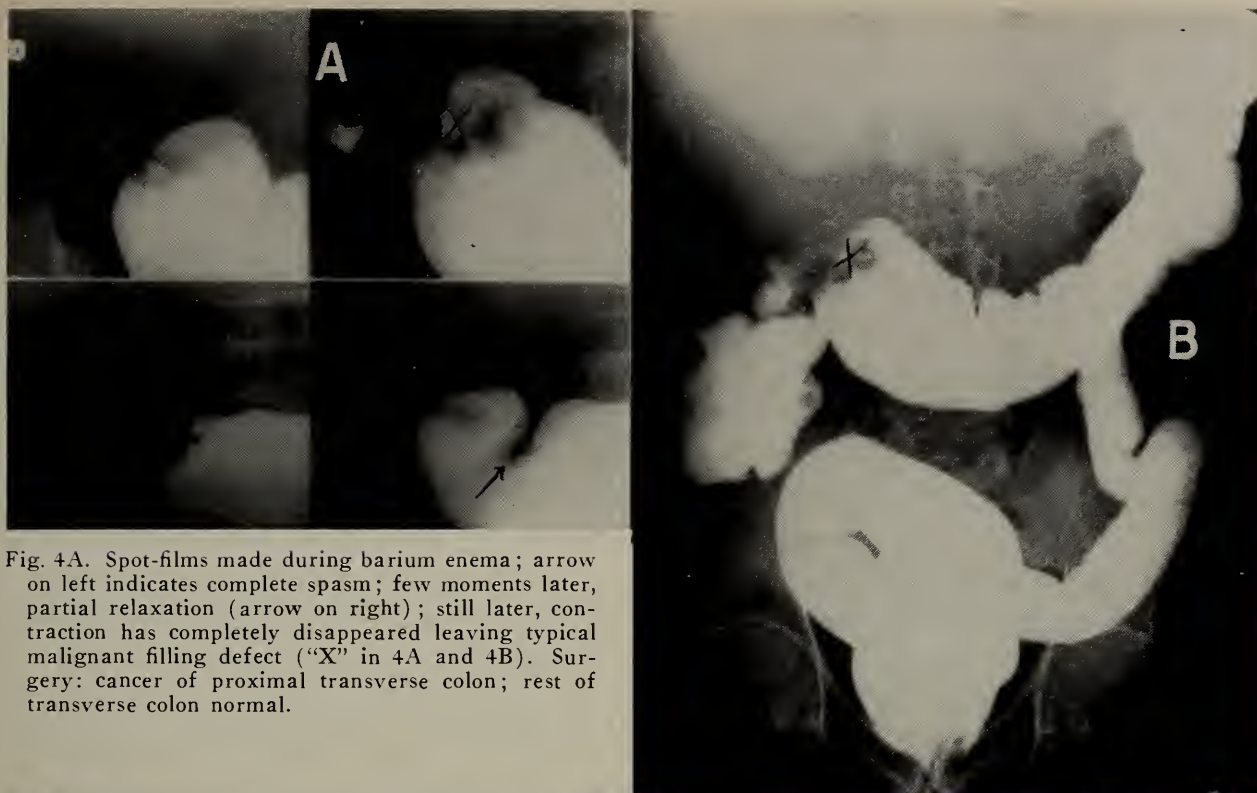


Fig. 4A. Spot-films made during barium enema; arrow on left indicates complete spasm; few moments later, partial relaxation (arrow on right); still later, contraction has completely disappeared leaving typical malignant filling defect ("X" in 4A and 4B). Surgery: cancer of proximal transverse colon; rest of transverse colon normal.

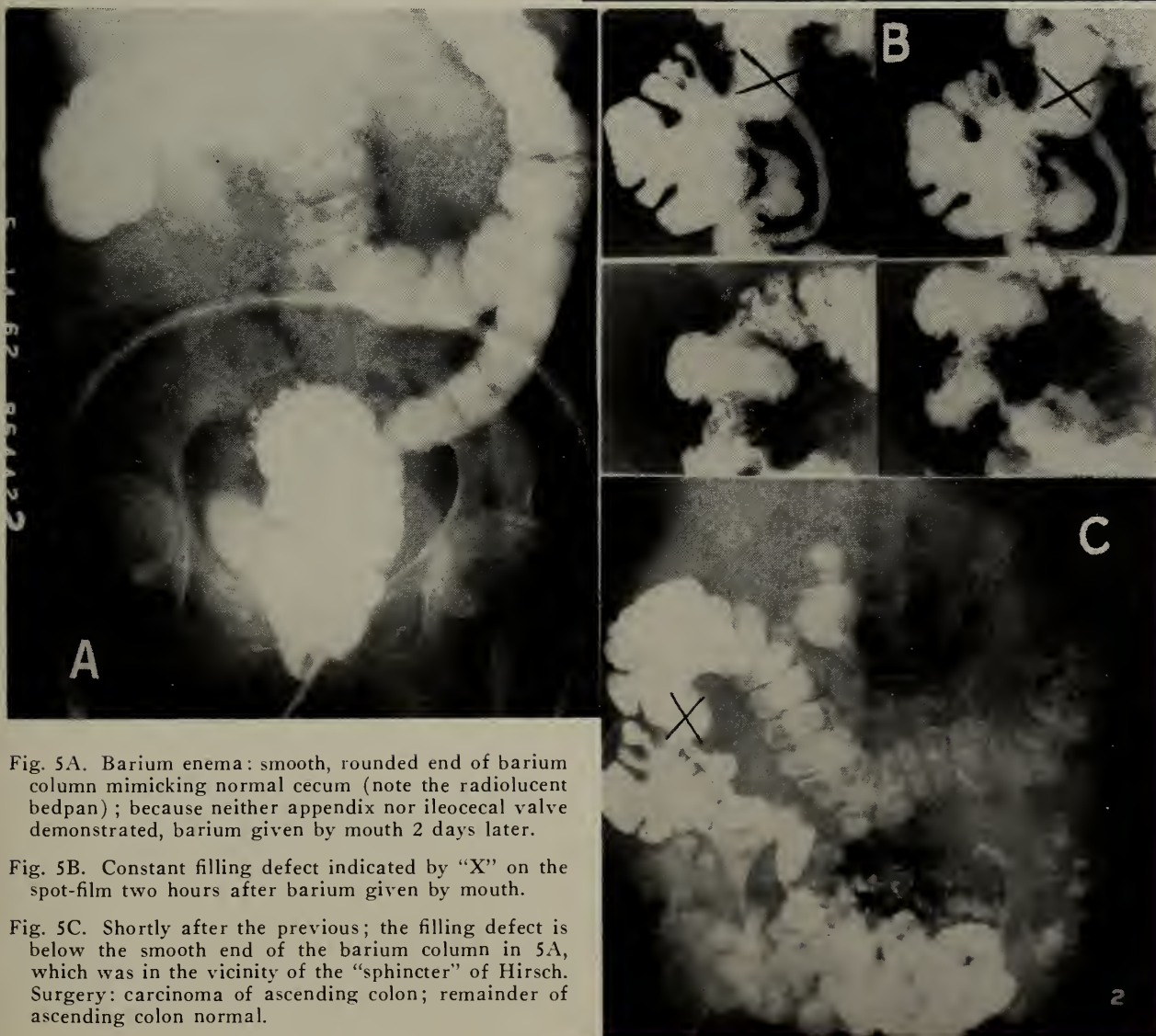


Fig. 5A. Barium enema: smooth, rounded end of barium column mimicking normal cecum (note the radiolucent bedpan); because neither appendix nor ileocecal valve demonstrated, barium given by mouth 2 days later.

Fig. 5B. Constant filling defect indicated by "X" on the spot-film two hours after barium given by mouth.

Fig. 5C. Shortly after the previous; the filling defect is below the smooth end of the barium column in 5A, which was in the vicinity of the "sphincter" of Hirsch. Surgery: carcinoma of ascending colon; remainder of ascending colon normal.

tuberculosis and chronic appendicitis has been reported.² It is quite likely that spasm in Hirsch's "sphincter" is the explanation for the not uncommon event of falsely complete filling of the right side of the colon in the presence of carcinoma in the cecum, which has given rise to the wise radiologic teaching that the appendix or the ileocecal valve must be identified before complete filling of the right side of the large intestine is assumed. In such cases of falsely complete filling, the terminal border of the barium column is smooth and rounded, resembling very much the real cecum and not the irregular margin of the cancer lurking just beyond it in the unopacified lumen. In the event that complete filling of the right side of the large intestine cannot be assumed, good radiologic practice requires that the ileo-cecal and ascending colonic segments be investigated by barium given by mouth, a simple and at times a rewarding procedure⁴, as illustrated in Figure 5.

Summary

Inconstant, disease-mimicking "sphincters", some with anatomic counterpart of

thickened muscle and others without, can be seen in the normal colon. Examples of increased spasm in Cannon's point and Hirsch's "sphincter" associated with inflammatory or neoplastic disease are presented. The spasm may be short-lived, or so persistent as to dominate the radiologic picture. Its presence should put the examiner on his guard to exclude inflammatory or neoplastic disease in the colon.

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Greatest Good for the Greatest Number

Each drug, new or old must be examined in the light of the statistical probabilities of its capacity for effective treatment and its capacity for toxicity. The problems are enormous. Should aspirin, producing a 60 to 70 per cent incidence of gastrointestinal hemorrhages and an estimated 500 deaths per year but saving no lives, be permitted? Should a drug responsible for saving 150,000 lives per year and simultaneously responsible for 500 deaths be permitted? There can be no general rules; each situation is a problem to be examined in and of itself; decisions must be made upon a basis of scientific humanism: scientific in the sense that the morality and ethics of impact (the greatest good for the greatest number) is the motivation.—Gustav J. Martin, Sc.D., in *Experimental Medicine and Surgery*, 22:2-3, (June-Sep.) 1964.

Current Currents

MEDICARE: Senator Carl Curtis (R.-Neb.) has pointed out some hitherto unmentioned dangers connected with Medicare. In his comments he said: "If the supplemental health and Medicare portions of HR 6675 are enacted, it will be the beginning of the end of private hospital and medical insurance for individuals over 65. Great progress has been made by private companies in providing insurance for those over 65. All of these benefits will come to an end if the federal government invades the field and acts as insurer and pays one-half the monthly cost . . .

"While the government is the insurer and takes the risk for the supplemental health benefits, the administration on the program will be handled by outside carriers, supposedly such organizations as Blue Cross or insurance companies. Those outside carriers will be selected by the Secretary of health, education and welfare. The Secretary, in determining what companies he shall employ as outside carriers, will be able to oversee the work of such carriers and their contracts with doctors. Ultimately all will toe the mark."

DR. WARD EXPLAINS: In his reply to a letter from the President of the American Hospital Association, Dr. Donovan F. Ward, President of the American Medical Association, offered a strong and clear-cut explanation of why medicine has opposed the AHA recommendation that the House version of HR 6675 be amended to include as hospital benefits the services of anesthesiologists, radiologists, pathologists, and psychiatrists.

Dr. Ward said in part: ". . . If it is the policy and belief of your organization that relationships between physicians and hospitals should be determined locally, why has the AHA publicly taken the opposite position across the country and before Congress? Why is the AHA conducting such a strenuous campaign, often intemperate, in support of the Douglas amendment which would make it impossible for specialists to negotiate agreements with hospitals on a voluntary basis at the local level?

"The Douglas amendment would destroy local and voluntary determination by creating a compulsory, standardized, centrally governed system which would have the effect of compelling these physicians by the force of law to become hospital employees whether they were willing or not.

"I am sure, therefore, that you can appreciate our concern when AHA support of the proposal to force these specialists into a fixed pattern is coupled with that portion of the AHA testimony which strongly suggests that the AHA seeks ever-widening domination over the provision of medical care, including doctors. . . . I call your attention to the following quotation from AHA testimony: 'In various ways the needs of the public and the efforts to provide the best possible patient care at the lowest possible cost is tending toward the increased concentration of a wide variety of highly skilled and trained specialists working full time in hospital centers.' "

WASHINGTON ROUNDUP: The Senate Finance Committee has tentatively approved the Douglas amendment, which would include in the hospital portion of HR 6675 (Medicare) the services of anesthesiologists, radiologists, pathologists and physiatrists. The committee also tentatively adopted an amendment which would include payment for the services of chiropractors and podiatrists.

In its further consideration of HR 6675, the committee increased the amount of money which a retired person could earn without decreasing his Social Security benefits. The present limit of \$1200 per year was increased to \$1500. Between \$1500 and \$3000, one dollar of Social Security benefits would be deducted for every two dollars the recipient earned. Above \$3000, the recipient would lose one dollar for every dollar earned. Social Security experts estimate that this change would increase cash benefits by \$375 million per year. Robert Myers, Social Security actuary, believes that the amendment might necessitate a still higher Social Security tax rate on employer and employee if the fund is to be kept in balance.

MEDICAL ASSISTANTS: Several members have requested an explanation of the certification program now offered by the American Association of Medical Assistants. Since many medical assistants in Virginia are active in AAMA, we are pleased to offer a brief outline of the program as we understand it. First of all, the AAMA certification program is designed to (1) help physicians identify those qualified as top-level office assistants; (2) establish professional standards and goals for medical assistants; and (3) assist schools and colleges in developing training programs for medical assistants.

The examination (usually given in June) necessary for certification appears to be quite thorough. Because the work of the medical assistant is quite diversified, it has been found necessary to present certification in two categories. They are (a) medical assistant, administrative and (b) medical assistant, clinical. Should one desire, certification can be obtained in both categories.

The examination is divided into seven sections, and all candidates must pass the first three which cover medical terminology, anatomy and physiology, personal adjustment and human relations, medical ethics, medical law and economics. For the administrative certificate, the candidate must pass two sections covering office skills and procedures, credits and collections, communications and records. For the clinical certificate, the candidate must pass two additional sections covering examination room techniques, sterilization procedures, care of equipment and laboratory orientation.

DID YOU KNOW? Air raid shelters with a capacity of 125,000,000 persons, and stocked with food and survival supplies for about 30,000,000, have been completed, according to the Office of Civil Defense.

In India, the expectancy of life at age 45 is 18 years, while in Norway the 45 year old may expect to live another 32 years.

Clinicopathological Conference

Prepared and Edited by
DR. PAGE HUDSON
and
DR. JOHN H. MOON
Medical College of Virginia

DISCUSSANTS:

Dr. Henry P. Royster, Assistant Professor,
Department of Surgery

Dr. Albert J. Wasserman, Associate Professor;
Chief, Section of Clinical Pharmacology,
Department of Medicine

Dr. Franklin Davis, Instructor, Department
of Pathology

The Clinicopathological Conference held
on Friday, September 25, 1964.

CASE #17-64

Clinician: Dr. Henry Royster

Pathologist: Dr. Franklin Davis

Clinical History:

The patient was a 24-year-old Negro female who was admitted to St. Phillips surgical service on 6/8/64 because of epigastric and right upper quadrant pain of four days duration. The pain had been of sudden onset and had become progressively more severe. On the day of admission the patient had noted radiation of pain to the interscapular area. She had vomited four times on the day of admission but had noted no hematemesis. She denied ingestion of alcoholic beverages prior to the onset of symptoms.

The review of systems was essentially negative.

The past medical history was negative except for an appendectomy in 1957.

Family history revealed that her parents were first cousins. She had one sister who had had intermittent abdominal pain but had never required hospitalization for it.

Physical examination: B/P 135/95, P. 80, T. 98.6°, R. 20, weight 122 pounds. She was a well developed, pale, perspiring young Negro woman lying in bed in acute distress with abdominal pain. The pertinent physical findings were limited to the abdominal examination. Her abdomen was slightly distended and there was generalized tenderness to palpation which was most marked in the right upper quadrant. Bowel sounds were present but hypoactive. No organomegaly or masses were felt. Rectal examination was negative.

Laboratory data: A catheterized urine showed dark yellow cloudy urine, pH 6, S.G. 1.021 with 2+ albuminuria but no sugar or acetone. Microscopic examination showed numerous WBC/hpf. A Hb. was reported as unsatisfactory due to a milky appearance of plasma. A repeat Hb. the next day was reported as 13.6 gm.%, WBC 12,400 per mm³ with 80% neutrophils, 18% lymphocytes, and 2% monocytes. BUN 16 mgm.%, blood sugar 210 mgm.%, serum amylase 1350 Somogyi units, serum sodium 128 mEq/l, serum potassium 4.1, chlorides 92 and bicarbonate content 18.

X-rays of the chest and flat and upright films of the abdomen were negative.

The patient was treated with general supportive measures but her temperature rose progressively to 103.6° on the third day and it became evident that she had developed ascites. A paracentesis was done with removal of 800 cc. of serosanguineous fluid. An amylase on the fluid was 1800 Somogyi units. After the paracentesis it was thought that a mass was palpable in the epigastrium.

makes one doubly suspicious of hyperlipemia.

My diagnosis is acute pancreatitis, probably hemorrhagic or severe interstitial, secondary to familial hyperlipemia based on observing milky serum, family history and the questionable abdominal mass.

Dr. Albert Wasserman will tell us something about this patient and her family.

DR. ALBERT J. WASSERMAN:

This patient and her family first came to my attention when the patient's youngest sister was admitted to the hospital with acute abdominal pain and was found to have marked lipemia of the fasting serum. Dr. John Forbes of the Department of Biochemistry studied the sample and found a moderate elevation of serum cholesterol and a marked elevation of triglycerides. For some while thereafter I saw the patient's sister regularly and with the administration of a low fat diet there was a moderate decrease in the patient's lipemia.

This disorder has been described in the literature under a variety of names, almost all of which include some of the following: idiopathic, familial, hyperlipemia, hypertriglyceridemia. The key to the diagnosis of this disorder is the finding of fasting lipemia, that is, the opalescent appearance of fasting serum. The opalescence is due to marked elevation of the serum triglycerides. Cholesterol, even in extreme quantities, does not produce lipemia. The patient described in this case had such a severe degree of elevation of triglycerides that after rapid centrifugation a butter-like layer of triglycerides collected at the top of her centrifuge tube. Eruptive xanthomata, abdominal pain often due to pancreatitis, hepatosplenomegaly, lipemia retinalis and possibly premature atherosclerosis are the manifestations of familial hypertriglyceridemia. Xanthomata occur in over half of these patients. The eruptive xanthomata occur in crops appearing chiefly around the elbows, buttocks and popliteal fossae. They are fre-

quently surrounded by a red halo at first and are one to two millimeters in diameter and of a yellowish color. Abdominal pain also occurs in about one-half of the reported patients. This symptom has frequently been shown to be due to acute pancreatitis but in some cases the cause of the recurrent abdominal pain remains unknown. Hepatosplenomegaly is seen chiefly in children and the degree of enlargement may vary with the level of the serum lipids. Lipemia retinalis is a manifestation of severe elevations of triglycerides. When the total blood fats exceed 3,500 mgm.% the retinal arterioles take on a pale pink appearance. When total fats are 8,000 mgm.% the arterioles appear milk-like. This occurs because of the central flow of red blood cells through small vessels with the peripheral placement of the plasma portion. With marked elevation of triglycerides the plasma takes on this pale to white appearance.

Dr. John Forbes and I studied over 100 members of the family of this patient. Except for two of her four siblings no other cases of hypertriglyceridemia were discovered. However, there is a striking incidence of hypercholesterolemia among her relatives. The patient's mother and father are first cousins, which supports the evidence in the literature that this disorder is an autosomal recessive characteristic.

The disease entity is rare with probably less than 200 cases reported in the medical literature. A low fat diet is effective in causing disappearance of the eruptive xanthomata, the hepatosplenomegaly, the lipemia retinalis and the recurrent abdominal pains. It is important to recognize that hypertriglyceridemia of a severe degree causes serum sodiums to be reported as low. In actuality, there is no true hyponatremia since, if the sodium content is calculated on the basis of serum water, it will be found to be normal. But when calculated on the basis of the total volume of the specimen, significant hyponatremia may be reported and in the case presented today large quan-

tities of sodium chloride were administered on the basis of reported laboratory values of significant hyponatremia.

Differential diagnosis of idiopathic hyperlipemia would include: uncontrolled diabetes mellitus, severe liver disease, starvation hypoproteinemia, von Gierke's disease, nephrotic syndrome, Zieve's syndrome and pancreatitis.

Uncontrolled diabetes mellitus may result in the development of eruptive xanthomata and hyperlipemia but should cause no problems in differential diagnosis. Liver necrosis resulting from phosphorus poisoning and from carbon tetrachloride has also been reported to be associated with significant hypertriglyceridemia. In starvation hypoproteinemia and von Gierke's disease, it is believed that the hyperlipemia results from an increased transport of triglycerides which are being used preferentially in the body's metabolism. The hypercholesterolemia of the nephrotic syndrome is well known and occasionally hypertriglyceridemia will also occur. Zieve's syndrome consists of the triad of alcoholism with jaundice, hemolytic anemia and hyperlipemia. The problem in differential diagnosis generally revolves around the problem of acute pancreatitis for it has been shown that during the course of acute pancreatitis marked hypertriglyceridemia may occur. When the hypertriglyceridemia results from pancreatitis, however, it tends to be transient, whereas, when it is of the exogenous familial type, the hypertriglyceridemia will persist until effective therapy is instituted. In some cases, however, it is difficult to determine whether the pancreatitis resulted from the hyperlipemia or the hyperlipemia resulted from the pancreatitis.

CLINICAL DIAGNOSIS:

1. *Acute pancreatitis*
2. *Familial hyperlipemia*

DR. HENRY ROYSTER'S DIAGNOSIS

1. *Acute pancreatitis*
2. *Familial hyperlipemia*

DR. FRANKLIN DAVIS:

This 24-year-old colored female was autopsied seven hours postmortem. The abdomen contained 700 cc. of blood stained fluid. The abdominal cavity, retroperitoneum, mesentery, greater omentum and peripancreatic fat showed patches of fresh and recent hemorrhage and small chalky deposits of fat necrosis. Hemorrhage was massive around the pancreas but was focal within the pancreas. Microscopically there was edema, enzymatic necrosis of fat and parenchyma, necrosis of vessels and some fibrosis of pancreatic lobules. We surmise from the latter that this fatal attack of acute hemorrhagic-necrotizing pancreatitis was not the first episode. We dissected the bile ducts to a small common ampulla, but there was neither cholecystitis nor cholelithiasis.

The lungs were markedly edematous. There were pleural effusions of 250 and 300 ml. The severely congested liver was doubled in size (2500 gm.) as was the spleen. Dilatation of the right heart completed the picture of cardiac failure.

No wonder surgeons call the pancreas "the powder keg of the abdomen". Shock, often sudden and irreversible, occurs commonly with pancreatitis. There is experimental evidence that this syndrome is due to a bradykinin-like substance. It has been shown¹ that venous blood from the pancreas contains this substance within 30 minutes after the onset of an experimental pancreatitis. It may be measured by vaso-activity of a bovine carotid strip, and has been demonstrated to parallel the activity of recurrent pancreatitis. It is inhibited by an antikinin, the therapeutic applications of which are obvious.

The patient under discussion has nothing to suggest the usual causes of pancreatitis. What are some of the less common etiologies? Periarteritis is a rare cause of pancreatitis. Another is hyperparathyroidism which should be considered when the serum calcium remains elevated. For in the ordinary

acute pancreatitis, the serum calcium is depleted because of calcium soap deposition in fat-necrotic foci. Still another unusual cause is familial hyperlipidemia, and this is what we are dealing with here.

The second part of my presentation will concern the fascinating disease known as primary hypertriglyceridemia. For the sake of clarifying what is to follow, the two diseases mentioned by Dr. Royster might best be called hypertriglyceridemia and hypercholesterolemia. In hypercholesterolemia the serum is clear, the cholesterol is elevated to several times the normal value (as is the

ever, they do have abdominal crises associated with recurrent pancreatitis.

The reticuloendothelial system in our case contained abundant foamy macrophages which were Shultz-positive and Sharlach Red-positive, evidence of their cholesterol and neutral fat contents respectively. These cells crowded the bone marrow and quintupled the weight of the spleen. Focal infiltration of the liver was present. (Fig. 1, 2) An unexpected finding was the presence of the cells in the pulmonary alveoli and alveolar capillaries. (Fig. 3)

The relationship between the abnormal

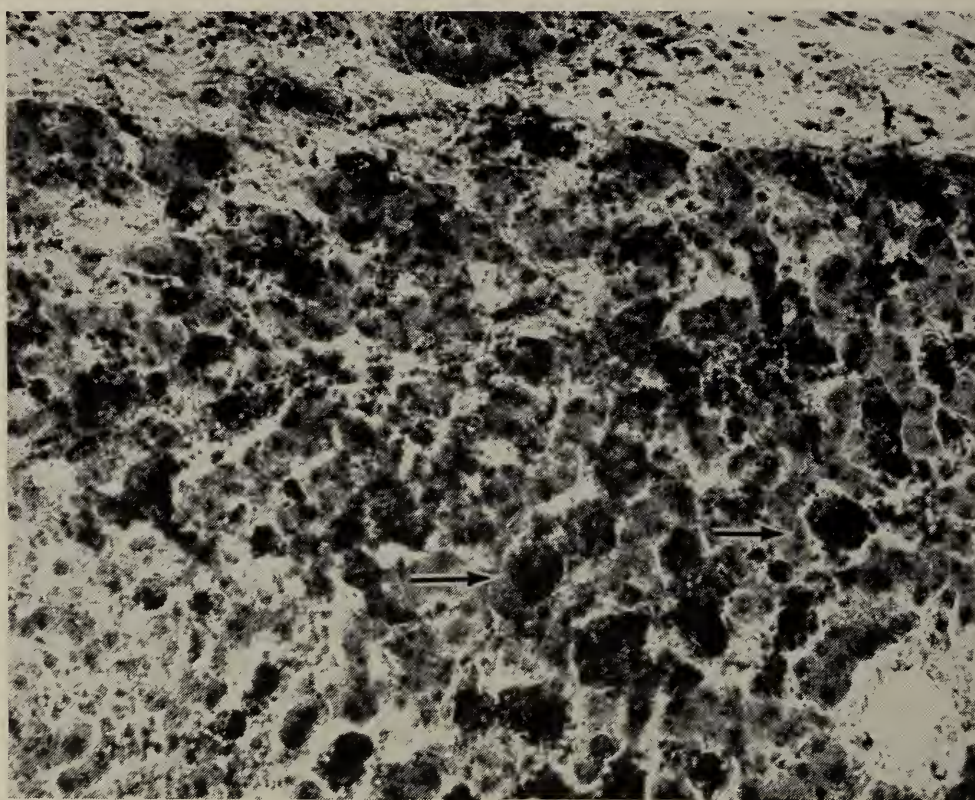


Fig. 1. Oil Red "O" Staining Lipophages within Sinusoids in One of the Few Sub-Casular Hepatic Foci. (450X)

cholesterol-phosphorus ratio), and the lipids are normal or only slightly raised. In this disease, coronary thrombosis usually claims the patient within the first two or three decades of life. In hypertriglyceridemia it is the serum-clouding neutral fats which are elevated from five to 40 times normal. The cholesterol, which may be only two to three times the normal level, is misleading unless triglycerides are done. These patients do not develop accelerated atherosclerosis and so they have a normal life expectancy. How-

lipid metabolism and the pancreatitis is poorly understood and the several theories—including ours—are tenuous at best. Xanthomas in the pancreas are a vaguely conceivable possibility. Hyperlipemia-induced atherosclerosis that occludes the pancreatic vessels should be considered. In fact, however, the patient with hypercholesterolemia gets atherosclerosis and does not get pancreatitis, and the hypertriglyceridemic patient gets pancreatitis and does not develop atherosclerosis. Finally, there is the theory

of lipid particle embolization which receives impetus from the elegant recent work² showing production of pancreatitis by in-

We were able to demonstrate fat and lipophages in pancreatic vessels. We found plugs in hepatic arterioles and in those of a

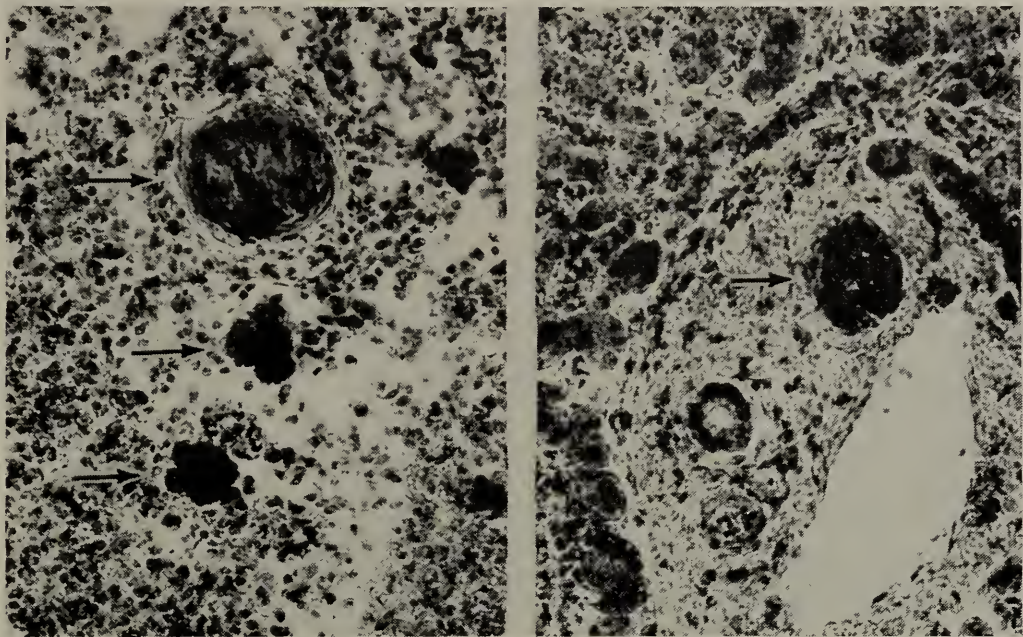


Fig. 2. (a): Lipophages Forming Intra-arterial plug, and Diffusely Scattered in Parenchyma of Spleen.
(b): Similar Mass Distending a Hepatic Triad Arteriole.
(Hematoxylin and Eosin, 450X)

travenous injections of plastic microspheres. We feel we are able to show some con-

multiply-infarcted spleen. Many pulmonary capillaries were also filled, suggesting a role

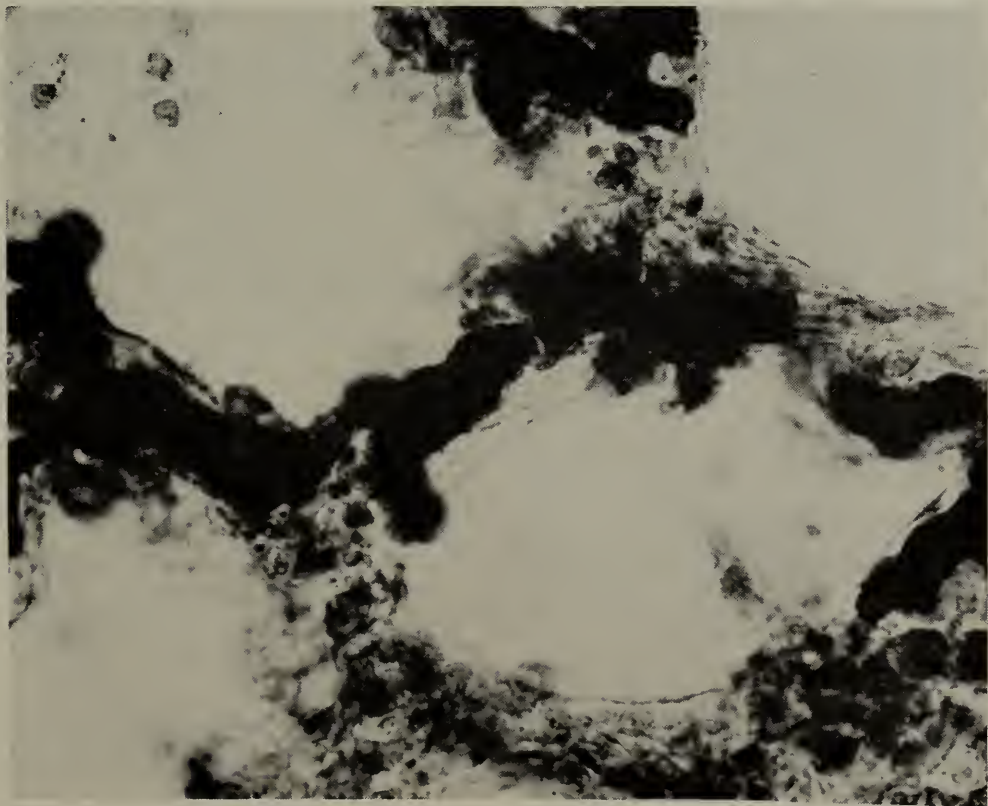


Fig. 3. Lipophages within Pulmonary Alveolar Septal Capillaries.
(Oil Red "O" Stain, Approx. 700X)

firmation and clarification of this theory in this case.

of the emboli in the production of the right heart dilatation. The lipid emboli in the

glomerular and peritubular capillaries may account for the acute tubular necrosis.

In conclusion, the patient had a familial defect in fat metabolism and died with acute pancreatitis. This is a well recognized complication of the disease. We have presented evidence that fat embolism may be a cause of pancreatitis.

FINAL ANATOMICAL DIAGNOSIS:

1. *Familial hypertriglyceridemia*
2. *Lipophages and lipid globule thrombo-embolism*

3. *Acute pancreatitis*

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Photographs were prepared by the Department of Visual Education, Medical College of Virginia.

TB Still Serious Disease

Tuberculosis-caused deaths have declined dramatically in the United States during the past 60 years, but there are over 9,000 deaths and 50,000 new cases of TB in the country each year, and increasing rates have been reported in some cities. Nonwhite TB death rates remain 2½ to 3½ times higher than those of whites, and three times as many males as females die from tuberculosis, according to a report in the June 21st Journal of the American Medical Association.

The report is by Theodore C. Doege, M.D., of the department of preventive medicine, University of Washington School of Medicine, Seattle.

"These facts . . . remind us that tuberculosis remains a significant health hazard. About 75 per cent of new cases occur among the estimated 35 million tuberculin-positive individuals, with persons among lower socioeconomic groups and in metropolitan areas, the elderly, and the chronically ill being at special risk," said a JAMA editorial.

Measures which will help break the chain of tuberculosis infection include tuberculin tests and chest x-rays of case contacts, establishment of case registries, chemotherapy and long-term follow-up of cases, BGG vaccination, and use of the chemical isonia-

zid in treating TB.

From 1900 to 1960, tuberculosis death rates in the U.S. fell from 194.1 to 6.1 deaths per 100,000. Decreases in the death rate began in the latter part of the 19th century, and preceded by more than 50 years the introduction of antituberculosis chemotherapy and antibiotics.

"Thus, the history of tuberculosis mortality underscores the concept that dramatic decreases in death rates from an infectious disease may be related to environmental changes in working conditions, nutrition, sanitation, and housing, as well as to dramatic medical advances."

"It is a safe assumption that social and economic influences are also of great importance in the consistently higher tuberculosis rates among nonwhites."

Men have higher TB death rates than women, except in the 5-to-25-year age group may be due to factors associated with stress, childbearing and childrearing.

Reasons for the otherwise higher mortality rates in males are not clear. Possible reasons are improvements in women's home and working conditions, their generally better record of following medical advice, and the greater prevalence of chronic disease in men, the report said.

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Is Tuberculosis Under Control?

Despite a steadily declining death rate for many years, the number of newly reported active tuberculosis cases in Virginia significantly *increased* during the three-year period 1962-64:

	<i>New Active Cases</i>	<i>Rate per 100,000 Population</i>
1962	1773	43.0
1963	2007	47.4
1964	2190	50.8

This increase in numbers is probably due in part to better case-finding and more complete reporting, but it is not certain that this is the complete answer.

The over-all number of tuberculosis cases under supervision of local health departments has likewise increased, there being 12,812 cases on registers at the end of 1964. In addition, there are approximately 5,000 "inactive" cases on these registers, which will have to be followed for many years for possible relapse. It has also been variously estimated that there are probably 10,000 active cases in the State, yet to be identified.

The most productive source of new tuberculosis cases is the large group of "sick" individuals, who are or should be under private physician care for various other ailments. Physicians who routinely include chest films and tuberculin tests as part of patient management are frequently uncovering new cases. These procedures are particularly productive in those individuals of high risk, such as diabetics, silicotics and other chronic non-tuberculous chest conditions and those on long-term steroid therapy.

Known contacts of active tuberculosis cases also produce a significant number of new cases each year, and local health de-

partments have long been giving close attention to their follow-up. It appears that one-fourth of the new cases are coming from those individuals recently infected, and three-fourths from those who acquired their infection more remotely, some of them many years ago. It is estimated that only 5% of those with positive tuberculin reactions will develop actual tuberculous disease during their lifetime, but the number of people involved, their identification and prolonged follow-up over the years is a tremendous task. Based on national estimates, this would represent approximately 800,000 positive tuberculin reactors in Virginia, with 40,000 ultimately developing disease.

Isoniazid as chemoprophylaxis is being increasingly employed in positive tuberculin reactors under three or four years of age, in "recent converters" (during preceding twelve months), and in certain high risk individuals. Immediate complications (meningitis, etc.) have been enormously reduced. Only time will disclose the ultimate impact on the residual tuberculous problem.

All local health departments are actively engaged in tuberculosis control activities. There are at present twenty-seven regional chest clinics jointly operated by the Division of Tuberculosis Control and the local departments. These clinics offer their services to private physicians on a referral and consultative basis for assistance in diagnosis and clinical management of patients. During 1964 there were 4,018 patient visits to these clinics and the load is increasing.

For many years the State Health Department has helped provide chest X-ray services in local health department areas. During 1964, 61,182 14 x 17 films, plus 245,113 70mm survey films were made.

Virginia is fortunate in having four modern tuberculosis hospitals, Blue Ridge, Catowba, Piedmont, and Ennion G. Williams, with a total bed capacity of approximately 1,200. Patients can be admitted regardless of financial status, and most complications except severe psychiatric disturbances can be handled. Local health departments can render valuable assistance in follow-up of patients after their discharge.

In 1963 a Task Force on Tuberculosis Control, formed at the request of the Surgeon General, U.S.P.H.S., submitted a comprehensive report on the national tuberculosis picture. It was pointed out that a tremendous job remains to be done. A course of action was recommended. It is significant that the State Health Department has already recognized and employed the basic principles of approach in its tuberculosis

control efforts. These efforts, however, must continue for many years to come, if tuberculosis is to be reduced to a minor public health problem.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	May 1965	May 1964	Jan.- May 1965	Jan.- May 1964
Brucellosis -----	0	5	1	7
Diphtheria -----	0	0	0	0
Hepatitis -----	60	46	397	266
Measles -----	735	4425	4304	11268
Meningococcal Meningitis ----	8	8	38	32
Meningitis (Aseptic) -----	0	2	4	6
Poliomyelitis -----	0	0	0	0
Rabies (In Animals) -----	34	23	229	177
Rocky Mt. Spotted Fever ----	5	6	6	8
Streptococcal Infections -----	1221	1032	7582	6073
Tularemia -----	0	0	3	3
Typhoid Fever -----	1	1	3	7

Water No Longer Pure

America's water is no longer pure, and it is being polluted faster than it is being purified, says an editorial in the March 22nd Journal of the American Medical Association.

"Not even the rain is pure any longer. The rains carry down the industrial dusts and smokes and steams; they are now made radioactive in traces; they also carry pesticides. All of these substances eventually get into man's system. The consolidated smoke in his (man's) lungs has long been known as anthracosis (darkening by dust of the lungs and lymph glands). His pesticide content is chemically measurable."

"Consideration of water pollution as a single process is obsolete, because even the rain, once man's insurance of purity in his water, now is polluted by the air through which it travels. In turn it pollutes the water of which seas, lakes and rivers are composed."

"Man has always lived partly in spite of polluted water, and only partly with pure water. He has learned how to remove bacteria with chlorine. But he has not learned

how to purify it (water) as fast as he can pollute it.

"When James Simpson constructed the first sand filter in 1829, the intent was to remove visible dirt from the water, to make the water clean. It was 25 years before the sanitary value of clean water was known.

"It took 52 years for the city of London to progress from the General Board of Health's advocacy of public ownership of water supplies (1850) to the Metropolitan Water Board of 1902.

"It is easier to contaminate oceans than to move political mountains. Ten years ago, Norway used a slogan cancellation in its post offices, saying, 'Help Keep Our Ocean Clean.'

"Lamentations are as vain as outcries that man is nature's worst enemy; these appeal to lovers of nature, but not to legislatures.

"As the demand for water increases with the population of the world, the big problem is to purify water at a faster rate than that at which it is polluted. Only a slight favorable balance is needed, but the balance has not yet been achieved."

ARTHUR CENTOR, Ph.D.

Prognosis in Schizophrenia

What is the prognosis in schizophrenia? This question has been asked many times and answered many different ways. About 50 years ago, the prognosis appeared to be extremely poor with much of the literature quoting from three to four per cent lasting recoveries in dementia praecox. More recent estimates show an amelioration rate of from 8.8 to 44 per cent. With such variability, one cannot be sure at all about the prognosis in schizophrenia.

In 1937, Gabriel Langfeldt of Norway hit at the core of the problem by proposing that the difficulty was in inaccurate diagnosis and that though the presenting symptomatology was such that a schizophrenic diagnosis was certain that there were really two categories in schizophrenia. One he called Process and the other Reactive. The Process Schizophrenic was seen as that individual who has been slowly withdrawing over a fairly long period of time with the psychotic episode being recognizably different than his previous adjustment but not the result of any precipitating factors. The Reactive Schizophrenic was seen as the individual who was reacting to a stressful situation and his psychotic episode was characterized by a sudden onset and by precipitating factors. The prognosis for the Process was seen as extremely poor and as that of the Reactive as being quite favorable.

A research study was therefore planned to investigate this hypothesis. Other studies have been retrospective in design and consisted of checking over the records several years after admission of patients with

known outcome and determining whether, upon admission, they would be considered Reactive or Process. These studies did confirm the hypothesis. It was important, however, to design a prospective study in which the patient was diagnosed upon admission and then followed for a period of time and a comparison made between the outcome of those diagnosed Process and those diagnosed Reactive.

Such a study was begun in 1962 at Central State Hospital, Petersburg, Virginia.¹ The subjects used were first admission patients with a fifth grade education and IQ's of at least 70. There were 20 classified as Process and 20 as Reactive. The Process group was characterized by a presenting symptomatology showing a clear sensorium and no affective admixtures, with an insidious onset without environmental precipitating factors and a schizoid pre-morbid personality. The Reactives were characterized by a presenting symptomatology showing a clouded sensorium and affective admixtures, with an acute onset precipitated by environmental factors and a non-schizoid pre-morbid personality. The subjects were selected by admitting to the groups studied all patients between the ages of 20 and 40, male or female, until the group which was less frequently available (Process) had 20 subjects. After this, 20 subjects were selected for the Reactive group to match in age, educational level, intellectual functioning level and sexual composition so that the two groups would not be statistically different one from the other.

The most difficult part about conducting research in the field of schizophrenia is controlling treatments. In order for the study to have meaning, it was necessary that the two groups be treated without any notable difference in medication and other therapies.

CENTOR, ARTHUR, PH.D., *Director of Psychological Services, Department of Mental Hygiene and Hospitals, Richmond.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

All of the subjects used in this research were kept on Thorazine with a dosage to be determined by the psychiatric staff and no other medication was to be given of the ataractic type. None of the patients was to receive any intensive psychotherapy in order to keep the treatment for the two groups as similar as possible. It was quite understandable that such a procedure could not be carried out for every patient and those patients that required a change in medication or other therapies were removed from the research population. Only those subjects were included that the staff considered would not require any additional medication or treatment.

Each patient on admission was given the Wechsler Adult Intelligence Scale and the Rorschach and very early in admission was rated by the psychiatric and nursing staff on the Multidimensional Scale for Rating Psychiatric Patients (MSRPP) devised by M. Lorr at the Veterans Administration. The patients were followed for six months and then given the MSRPP again or if furloughed or discharged before six months, were rated on the Scale at that time. This Scale was used for an objective determination of improvement or lack of improvement. Because of the difficulties inherent in such studies where care must be taken not to interfere with accepted treatment procedures, this study took over two years in collecting a research population. Before the study could be completed, one Reactive was lost to the study because of escape and rather than continue for another six months, the groups were made up of 19 Reactives and 20 Processes and, for statistical purposes, this created no difficulties.

At the end of the study, it was determined that 18 Reactives improved and one was unimproved; and of the Process schizophrenics, 10 improved and 10 were unimproved. The probabilities of such a difference in improvement rate occurring in two groups randomly selected from one sample would be between one and five out of a

thousand studies and, therefore, it was indicative that the differences obtained were highly significant. The hypothesis that the prognosis depends upon diagnosis was confirmed.

The groups were also compared to determine whether there was any difference in the sex make-up of the two groups. Of the Reactives there were six males and 13 females and in the Processes there were 10 males and 10 females. Though it would appear that there is an imbalance with more females being in the Reactive group, a statistical analysis showed that there was no reliable indication of any difference between the groups.

The two groups were compared for age. The mean age of the Reactives was 30.68 and for the Processes—27.70. The statistical probabilities of an age composition as divergent from the hypothetical as the two groups used in the study was between 10 and 20 per cent. Demonstrating again, no statistical difference.

In a comparison of the IQ's of the two groups, there was a mean IQ of 77.74 for the Reactives and 79.30 for the Processes and statistically there was no difference between the groups in IQ level.

In comparing the two groups for education level, it was determined that the Reactives had a mean of 9.05 and the Processes of 9.50. Statistical analysis showed no difference between the two groups in educational level.

From the above, it will be seen that there was no statistical difference between the groups as regards sex, age, mental development and educational level. The statistical material available lent itself to analyzing whether there were not some major prognostic differences in age, sex, educational level and intellectual level.

When the subjects were divided into two groups of males and females and diagnostic category was disregarded, there were 16 males and 23 females. Of the males, 11 improved while five did not; and of the

females, 17 improved while six did not. The probability of such a difference occurring by chance was between 50 and 75 per cent. Since this is well within the level of acceptance, there was no reliable indication of any difference between the groups. This means that the hypothesis of no difference in prognosis on the basis of sex is acceptable for the groups studied. The single factor of sex, therefore, is regarded as being prognostically insignificant.

As will be recalled, subjects used were between the ages of 20 and 40 and within this category, the subjects were divided between the 17 youngest and the 17 oldest without regard to diagnostic category. Eleven of the youngest improved and six did not. Of the older group, 13 improved while four did not. The probability of such a difference occurring by chance was between 30 and 50 per cent. Since this is well within the level of acceptance, there was no reliable indication of any difference between the groups when age was the variable. Insofar as these groups were concerned, age in itself is considered to be prognostically insignificant.

The subjects used in this study all had at least IQ's of 70. When the subjects were divided into two groups of high IQ scores and low IQ scores, it was seen that 12 improved and five did not and of the low IQ scores, 13 improved and four did not. The probability of such a difference occurring by chance was between 50 and 75 per cent. Since this is well within the level of acceptance, there was no reliable indication of any difference between the groups. Insofar as study was concerned, IQ in itself is a very unreliable indicator of prognosis.

In the subjects studied, a fifth grade education was necessary for inclusion. The subjects were then divided into 18 with a higher educational level and 16 with a lower educational level. Of the 18, 11 improved and seven did not; and of the low educational level, 13 improved and three did not. The probability of such a difference oc-

curing by chance was between 20 and 30 per cent. Once again there was no reliable indication of any difference between the groups. For these subjects, at least, educational level is no reliable indicator of prognosis.

It will be remembered that upon admission, each subject was given the MSRPP. Since this Scale measures to a large extent the severity of schizophrenic symptomatology, it is reasonable to ask whether the high scorers on this Scale would not have a poorer prognosis than those who were low scorers or those with more severe presenting symptomatology would have a poorer prognosis than those with milder symptoms. On the other hand, it is at times believed that the more severe the presenting symptomatology, the better the prognosis. Such an observation being based on the clinical observation that the more bland the schizophrenic, the poorer the prognosis. To test this question, the subjects were divided into two groups of 19 each of high and low scorers on the admission MSRPP. Of the high scorers, 12 improved and seven did not; and of the low scorers 15 improved and four did not. The statistical test applied to the test the difference between the two groups indicated a confidence level of about 25 per cent and since this is well above the five per cent level of acceptance, there was no reliable indication of any difference between the groups. This would indicate that, at least for these groups, *the severity* of the presenting symptomatology is not in itself a reliable prognostic indicator.

Since the Rorschach was also administered soon after admission, the protocols were scored according to Klopfer's Rorschach Prognostic Rating Scale (RPRS). This Scale is still in the experimental sphere but is useful in measuring the level of ego strength. The possibility was considered that the RPRS could be a reliable indicator in prognosis in schizophrenia. Therefore, the subjects were divided into two groups of 19 each of high and low scorers on the RPRS.

It was determined that of the high scorers, 16 improved and three did not; and of the low scorers, 12 improved and seven did not. Though the Scale did predict in the correct direction, since a high score indicates greater ego strength, when statistical tests were applied to determine the difference between the two groups, it was seen that such a difference could occur by chance between 10 and 20 per cent and since this is above the five per cent level of acceptance, there was no reliable indication of any difference between the groups. Insofar as the groups studied were concerned, the RPRS score had in itself only little prognostic value insofar as schizophrenia was concerned.

Interpretation and Discussion of Results

Prognosis in schizophrenia has, in the past, baffled many investigators with results that were either inconclusive or contradictory. Common to such studies was the selection of *one* factor for examination and evaluation such as personality, age, subtype, type of onset IQ, etc. This study, following Langfeldt, considered a constellation of factors rather than the presence of any single one in the differential diagnosis between Reactive and Process schizophrenia. The results showed that, in the sample used, there was a clear cut difference in improvement or recovery rate between the two groups of first admission schizophrenic patients. The Reactive group had an improvement rate of 95 per cent (18 out of 19) while the Process group's rate was 50 per cent (10 out of 20).

That such a high percentage of Reactives improved is not as impressive as the 50-50 chance of getting better than the Processes showed. One may question whether there was any real improvement at all. It would take a lifetime study to investigate lasting recovery. However, amelioration in symp-

tomatology is often sufficient in these times to consider the case an improvement or sometimes recovery.

That half of the Process schizophrenics were able to recover behaviorly and symptomatologically may well be attributed to the pharmacologically induced state of peace. Returning to the noxious environment may no longer cause a quick remission to psychosis because the turmoil is tolerated with the help of medication. It is also certain that the trained personnel of today is more likely to help a patient make a comeback. It should be noted, however, that this study is in no way to be considered an endorsement of the ataractic drug used since there is no evidence that the drug caused the improvement.

It is hoped that this study will cause future researchers in the field of schizophrenia to consider that they are actually dealing with two diagnostically different groups and that to test any drug or procedure on a group of schizophrenics is meaningless unless the researcher determines in advance how many in the group are Reactives and how many Processes. He should consider that the Reactives will probably improve with or without the drug or procedure and that the Processes probably will not. A truly effective drug or procedure should show marked improvement in the Process Schizophrenics.

1. This research project was partially supported by the Department of Mental Hygiene and Hospitals of Virginia with the encouragement of Dr. J. R. Blalock, Superintendent of Southwestern State Hospital. Many at Central State Hospital helped to see it through. Among these were Dr. T. Denton, Dr. E. Makarowsky, Dr. Z. Wegielski, Dr. M. Kibbe, Dr. H. Sormus, Dr. N. Vaswani, Dr. L. Kirven, and most of the residents. Invaluable were the nurses and attendants under Mr. E. Langley.

The material presented is condensed from author's Ph.D. thesis.

Diagnostic Laboratory Medicine . . .

Gastric Analysis

In most clinical laboratories, the term for routine "gastric analysis" is virtually synonymous with measurement of gastric acidity. The determination of gastric acidity can be related, along with clinical and radiographic findings to several pathologic states. Other determinations are performed infrequently. Methods of gastric analysis will be reviewed to include newer concepts and methods which do not require intubation.

The usual specimen for gastric analysis is obtained by means of a nasogastric suction tube. Most frequently for routine determinations fasting patients are intubated upon arising or after a test meal such as the standard Ewald test meal of two slices of bread and water or a modernized version consisting of eight Arrowroot cookies and water. Sometimes continuous suction overnight or over a specific period (12 hour) is indicated. The stimulatory effects of food are best represented by gastric juice aspirated one hour after the test meal. Alcohol can be used for gastric stimulation. It is introduced (50 ml of 7% EtOH) through a stomach tube after the fasting specimen has been obtained. The fasting specimen is tested immediately qualitatively for free acid (see below) and if it is present there is usually no need for additional specimens with gastric stimulation. Fractional (Reh-fus) aspirations are sometimes indicated by the patient's clinical findings and by the information desired.

More potent stimulation is afforded by histamine administered subcutaneously. The minimal effective dose in man is 0.004 mg of histamine base (1.0 mg histamine base is equivalent to 2.75 mg histamine diphosphate) per Kg of body weight. A handy dose of 0.25 mg of histamine for adults is widely used as an average amount. In the augmented test, maximal stimulation is

achieved by the administration of 0.04 mg histamine base per Kg of body weight but this must be preceded by an anti-histamine drug which will minimize unpleasant side effects. Betazole hydrochloride (Histalog^R) is a histamine analog with minimal side effects. Histamine should be used with caution and is contraindicated in persons with a history of allergic diseases such as bronchial asthma.

The volume and gross appearance of the specimen are of interest primarily to the clinician rather than to the laboratory technician and should be noted before the specimen is sent to the laboratory. The first hand gross inspection by the clinician cannot be supplanted by the opinion of the technician. The volume is of value only in relation to the clinician impression of pyloric obstruction or spasticity or of atrophy.

Determination of gastric acidity is achieved in the following manner. A 5 ml aliquot of the specimen is filtered, if necessary, and titrated to the desired end point with 0.1 N NaOH. The volume in ml of 0.1 N NaOH is multiplied by 20 and the result is reported as "clinical units" or "degrees" of acidity or HCl per 100 ml of gastric juice. One degree of acidity is defined as being equal to 1 ml of 0.1 N NaOH and the multiplication by 20 is necessary to make the 5 ml aliquot comparable to the 100 ml basis. Titration to pH of approximately 2.8 to 3.5 as indicated by dimethylaminoazobenzene (Topfer's reagent) is reported as "free acid". Titration to pH 8.0 to 10.0 with phenolphthalein indicator is traditionally stated to represent "total acid" and the difference is considered to be the "combined acid".

It has been suggested that the terms "units" or "degrees" should be discarded in favor of the term mEq/L which is numerically equivalent to and is consistent with the units used for other body fluids. It also

has been stated that the terms "free", "combined", and "total" acid are obsolete, misleading in respect to semantics, and without specific clinical correlation. In addition, it has been shown that in titrations by technicians with experience the dye indicators permitted an error equivalent to 30 mEq/L with Topfer's reagent and 12 mEq/L with phenolphthalein. Bock in *The Lancet* (Bock O.A.A. The concepts of "free acid" and "total acid" of the Gastric Juice, November 24, 1962, page 1101) recommended that gastric acidity should be reported as mEq/L HCl determined by titration to pH 7.0. The titration to neutrality should preferably be performed electrometrically but if suitable instruments are not available the colorimetric titration using the indicator phenol red to its end point (pH 7.0 to 7.4) will produce results that can be compared among different laboratories and different patients.

Gastric intubation is generally unpleasant and not without some hazard; in fact, it may be contraindicated. Methods have been devised to utilize intragastric release and absorption of an indicator substance that is excreted in the urine as an indication of gastric acidity. In the test most popularly utilized in this country, the test material is azuresin (Diagnex Blue^R), an azure A dye coupled reversibly to a carbacrylic cation resin. In a pH of less than 3.5, the dye is liberated from the resin in exchange for hydrogen ions. It is then absorbed in the small intestine and excreted in the urine.

The patient is instructed to void completely and discard the morning urine after a 12 hour overnight fast (water as desired). A specimen voided two hours after ingestion of the packet of azuresin provides the test specimen and by ascorbic acid (supplied with the test packet) reduction of a portion of the specimen, the control sample. Gastric stimulation at the time of ingestion of the resin can be by oral caffeine sodium benzoate 500 mg (supplied with the test) or

by maximal stimulation using histamine or Histalog^R.

The dye in the test urine can be compared visually with tubes of standard which are supplied with the test or spectrophotometrically using the ascorbic acid reduced control urine and the standards. If the urine does not appear to contain dye, the pH may be lowered by copper acid sulfate which is supplied with the test.

A positive finding with the azuresin test is fairly reliable in indicating gastric acidity. When compared with the results of intubation and maximal histamine stimulation, the azuresin test falsely indicated acid in 1.8% of patients. Using the same criteria, achlorhydria was falsely shown in 40% of those tested by azuresin. In cases which fail to show acid by this method, intubation and titration are necessary.

False positive azuresin results can be present after partial gastrectomy or in gastric hypermobility in which dye is replaced erroneously by cations of the small intestine. False negative results are expected in pyloric obstruction, intestinal malabsorption, liver or renal disease, urinary obstruction, or poor patient cooperation.

A similar tubeless gastric analysis method employs a 0.22 gm ball of methylene blue dye wrapped in a thin rubber sheet and tied with a 4-0 catgut in a clove hitch knot. The pill which measures only 0.5 cm in diameter is easily swallowed. It is widely used in Europe and is marketed as the Desmond Pill^R. It has been recently reported that a miniaturized, self-contained, transistorized pH meter that is 2.0 X 0.5 mm, can be swallowed, and will monitor pH from 2.0 to 7.0 and will transmit for a 12 hour period to an antenna and receiver which is worn around the waist. The meter costs \$50.00 and can be used only once. Other pH probes and meters have been in use for several years but they require bulky external instruments and the unpleasantness of swallowing large apparatus.

The amount of gastric acidity can be re-

lated to several pathological states. Gastric cancer and pernicious anemia almost invariably have associated achlorhydria. The converse is not true although gastric carcinoma is three times as prevalent in persons with fasting anacidity. Subnormal acidity can exist for as long as 25 years before the diagnosis of cancer. Patients with benign peptic ulceration are almost never achlorhydric. Exceptions are frequent and much should be done in promoting an established definition of achlorhydria in which pH and type of stimulation are standardized. High basal gastric acidity and volume are characteristic for the Zollinger-Ellison syndrome although values for volume and acidity (2000 ml and 100 mEq for 12 hours) considered pathognomonic have notable exceptions.

In the Hollander test, stimulation of gastric secretion by intravenous insulin induced hypoglycemia is an indication of the completeness of vagotomy. Although there is good physiologic basis for the test, the lack of clinical correlation with regard to ulcer healing has been reported repeatedly. The test has some hazard (blood sugar of less than 50 mg%) and many prefer augmented maximal histamine stimulation for assessing the postoperative ulcer potential in patients with vagotomy.

Other tests of aspirated gastric contents are performed. A positive benzidine or

Meyer's test for occult blood is frequently encountered. Most of these represent false positive findings secondary to intubation trauma. In many laboratories, the specimen is tested for lactic acid if no free acid is found. In the past the presence of significant amounts of lactic acid was considered to be highly suggestive of gastric carcinoma but the reliability of correlation is subject to question at this time. Cells for cytologic diagnosis of malignancy can be aspirated but some method of abrasion of the gastric mucosa (a roughened balloon) and immediate smear preparation and fixation are imperative.

Gastric analysis remains a useful adjunct to clinical findings in spite of more recent advances in radiographic and endoscopic techniques. More rigorous and mutually understandable definition of achlorhydria is needed. Tubeless gastric analysis by the azuresin (Diagnex Blue^R) method is reliable in excluding achlorhydria and because of its low cost (50 cents per test in large numbers) and lack of unpleasant and occasionally hazardous intubation, recommends itself for office use and mass screening for gastric cancer.

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Annual Meeting

The Medical Society of Virginia

Richmond, October 10-13, 1965

Medical Orphans

IN RECENT YEARS many large companies and some agencies of the Federal Government have provided annual physical examinations for their top employees. Industry justifies this expenditure as a means of protecting its investment in these executives. The employees consider this to be the equivalent of a tax-free pay raise. The industrial physician who does the examination feels that he is performing a service to the company and to the employees. The personnel department sometimes uses this information for more efficient job assignments. The overworked family physician is willing to share his work load and does not begrudge the associated loss of income.

There are no problems until the executive gets sick. The company physician has neither the time, the inclination, the hospital appointment nor the patients' confidence to provide efficient treatment. The patient who has no regular physician may waste critical hours before he can locate a physician willing to accept a new patient in an emergency. The physician who sees the patient has the disadvantage of having no previous knowledge of his health. Consequently this "medical orphan" receives delayed and inefficient medical care.

One solution is for the company to pay the family physician his usual fee for performing the annual physical examination. This has been unsatisfactory to the company because of inadequate examinations and incomplete reports, and unsatisfactory to the physician because of inadequate compensation and excessive demands for non-essential tests.

An effective compromise is for the company physician and the family physician to perform the examination on alternate years. Each performs those tests which he thinks are necessary and sends a full report to the other. The company pays the physician his usual fee for this service. The company and the employee have the benefit of a health appraisal by two different physicians. The patient has an established family physician who is familiar with him.

This system has been successfully used in other parts of the country. With the mutual cooperation of industrial physicians and family physi-

cians it could be successful here. The problem of the government employee who is examined by a government physician will be more difficult to solve. An act of Congress may be needed in order to provide a system of paying the family physician for his services. Steps should be taken to adopt these medical orphans.

JAMES M. MOSS, M.D.

The Clinicopathological Conference-A New Feature

THIS ISSUE of the Virginia Medical Monthly contains a clinicopathological conference prepared and edited by Drs. Page Hudson and John H. Moon of the Medical College of Virginia. Many members of The Medical Society of Virginia have expressed a desire to have this type of thought-provoking article appear regularly in the journal. The Editorial Board is pleased that we have been able to meet this need and if every CPC is chosen and prepared as carefully as this initial article it may well prove to be our most popular feature.

It is hoped the University of Virginia School of Medicine will also participate in this program for there must be a wealth of suitable material in Charlottesville.* The burden, too, of preparing this difficult type of article should not fall entirely on one school. Meanwhile we extend our thanks to Drs. Hudson and Moon, to the most able discussants and to the Department of Pathology of the Medical College of Virginia.

H.J.W.

EDITOR'S NOTE: After this item was prepared a CPC was received from the University of Virginia and this will appear in the August issue of The VMM.

Calendar of Events

DUKE MEDICAL POSTGRADUATE COURSE, Morehead City, North Carolina, July 12-17.
NUTRITION INSTITUTE, Georgetown University School of Medicine, Washington, D. C.,
July 26-30.
SEVENTH ANNUAL SOUTHERN OBSTETRIC AND GYNECOLOGIC SEMINAR, INC., Grove
Park Inn, Asheville, North Carolina, July 26-30.
MEDICAL ASPECTS OF SPORTS CONFERENCE, Presidential Inn, Lynchburg, Virginia,
August 7.
NATIONAL CONFERENCE ON PHYSICIANS AND SCHOOLS, Sheraton-Chicago Hotel, Chi-
cago, Illinois, September 23-25.
TENNESSEE VALLEY MEDICAL ASSEMBLY, Tivoli Theater, Chattanooga, Tennessee,
September 27-28.
FIRST NATIONAL CONGRESS ON MEDICAL ETHICS AND PROFESSIONALISM, Drake Hotel,
Chicago, Illinois, October 2-3.
THE MEDICAL SOCIETY OF VIRGINIA ANNUAL MEETING, Hotel John Marshall, Rich-
mond, Virginia, October 10-13.
STATE-LOCAL HOSPITALIZATION REGIONAL CONFERENCE (SLH), Hotel Roanoke, Roa-
noke, Virginia, October 28.
THIRD ANNUAL KIDNEY SYMPOSIUM, Medical Education Building, Medical College
of Virginia, Richmond, Virginia, October 29.
STATE-LOCAL HOSPITALIZATION CONFERENCE, Convention Center, Williamsburg, Vir-
ginia, November 5.

Meetings of the various specialty societies during the 1965 Annual Meeting of The
Medical Society of Virginia will be covered in the program issue for September. Mem-
bers are invited to contact the State Office for information concerning any state, national
or international meeting. We are endeavoring to maintain as complete a file as possible.

New Members.

The following members were received
into the membership of The Medical Society
of Virginia during the month of May:

Andrew W. E. Bassette, III, M.D.,
Hampton
Samuel Michael Belinsky, M.D.,
Annandale
Philip Winston Cowherd, Jr., M.D.,
Saltville
Claus Jochen Dietz, M.D., Falls Church
Louis Arnold Frederick, M.D., Richmond
Fairfield Goodale, Jr., M.D., Richmond

Arthur Gaillard Gower, III, M.D.,
Manassas
Frank Joseph Hague, M.D.,
Charlottesville
Ellis Franklin Maxey, M.D.,
Newport News
Robert Mason Pilcher, Jr., M.D.,
Richmond
Eugene F. Poutasse, M.D., Norfolk
John Ashburn Rawls, M.D., Richmond
Joseph George Rhode, M.D., Richmond
Philip T. Rodilosso, M.D., Arlington
Myron Paul Walzak, Jr., M.D.,
Charlottesville
George Albert Whipple, M.D., Fairfax

Dr. J. M. Emmett,

Clifton Forge, was honored by The Medical Society of Virginia during a special ceremony held in connection with the May 19 meeting of the Alleghany-Bath Medical Society.

A silver tray was presented Dr. Emmett by Dr. McLemore Birdsong, Society President, in recognition of his many services over the years to his profession, his community and his State. Dr. Emmett, a Past-President of The Medical Society of Virginia, was lauded especially for his work with the physician draft.

Since 1950, when the draft was begun as a result of the Korean conflict, Dr. Emmett has served as Chairman of the Virginia Advisory Committee to Selective Service. He has handled a difficult and oftentimes thankless job in a manner which has earned him the respect and gratitude of the National Advisory Committee, Virginia Selective Service officials, the two medical schools and a countless number of Virginia communities.

Virginia Society of Ophthalmology and Otolaryngology.

At the annual meeting of this Society, held in Williamsburg in May, Dr. George H. Smith, Winchester, was elected president, succeeding Dr. Marion Humphries, Charlottesville. Dr. DuPont Guerry, Richmond, was named vice-president and Dr. Peter Wallenborn, Roanoke, secretary-treasurer.

Medical Association of the Valley of Virginia.

At the annual meeting of this Association held in Staunton in May, Dr. Robert M. McDonald, Harrisonburg, was elected president; Drs. James A. Higgs, Jr., Staunton, James R. York, Berryville, and John Glick, Broadway, vice-presidents; Dr. Thomas Shaver, Waynesboro, secretary; and Dr. C. F. Gaylord, Staunton, treasurer. Dr. Don-

ald Myers, Hot Springs, is the retiring president.

Virginia Surgical Society.

At the annual meeting of this Society held in Williamsburg, May 22nd, Dr. Carrington Williams, Jr., Richmond, was elected president succeeding Dr. Richard P. Bell, Jr., Staunton. Dr. Monford D. Custer, Winchester, was named vice president; Dr. J. Shelton Horsley, III, Richmond, secretary; and Dr. E. Meredith Alrich, Charlottesville, re-elected treasurer.

Have You Checked Your Advertisers Recently?

If it were not for the advertisers the Virginia Medical Monthly would not be able to keep up its good standards and try to provide its readers with what they really want. Of course, we could publish a journal without advertising but it would have to be very small and some other means of financing would be necessary—such as an increase in dues!

During the past couple of years, due to various government activities in the drug industry, our advertising has dropped off considerably but we hope has hit the bottom and is now on the upgrade. We can't say too much for the many advertisers who have continued to support the journal during this crisis and they will always be "tops" in our estimate. Some of our old advertisers and some new ones are gradually coming back in our pages.

Have you looked at the advertising pages recently? This should be part of your continuing education—how else can you keep abreast of new drugs, equipment, hospitals, etc. And, of course, we think you should patronize those who support us!

Dr. Harry J. Warthen,

Richmond, Editor of the Virginia Medical Monthly, addressed the Stonewall Brigade of the Order of the Stars and Bars at

its charter night banquet in Lynchburg May 28th.

Dr. Ralph R. Landes,

Danville, has been awarded a grant for research work on Ureteral Reflux in the Adult before and after Bladder, Neck and Prostatic Surgery. The grant of \$2,875.00 was made by the American Urological Association at its annual meeting in New Orleans in May. Dr. Landes was also elected to the office of historian.

Dr. Joseph D. Lea,

Norfolk, has been named medical director of DePaul Hospital. This is a newly created post and will include direction of all educational activities of the hospital on a post-doctorate level, serve as liaison between the professional staff and the administration, and assist in the developing, planning and evaluation of new procedures.

Lewis-Gale Hospital Staff Appointments.

At a recent meeting of the Board of Directors of Lewis-Gale Hospital, Roanoke, Dr. W. Allen Barker was appointed chief of staff; Dr. W. Langley Sibley, chief of surgery; and Dr. Frank A. Wade, chief of medicine.

Dr. Martin Markowitz

Has been elected president of the Richmond Area Unit of the American Cancer Society.

Among the new board members are Drs. Richard W. Dodd, William Houck, Bruce Lundeen, Paul Middleton, and Ralph Natvig.

MCV to Receive Million for Arthritis.

The late Dr. Charles Walter Thomas, a native of Patrick County, who practiced medicine in Floyd and Patrick Counties for more than fifty years, has willed the Medical College of Virginia slightly more than one million dollars to be used for arthritis

research. His bequest will be used to establish the Charles Walter Thomas Arthritis Fund.

Dr. Thomas was a 1903 graduate of the Medical College of Virginia and died in 1964. He was a member of The Medical Society of Virginia.

Dr. William F. Schmidt,

Bristol, has been elected president of the new Southwest Tuberculosis and Respiratory Disease Association.

Dr. Jantz Honored.

The Bedford County Memorial Hospital recently gave a testimonial dinner for Dr. Jacob G. Jantz, "surgeon, football fan and barber shop singer".

Dr. Jantz came to Bedford in 1936 where he opened his own hospital, but gave strong and generous support to the Bedford Memorial Hospital when it was first founded and is now the first chief of staff of that hospital.

Dr. Thomas E. Haggerty,

Falls Church, has accepted an invitation from the All India Ophthalmology Congress to present two papers at the Congress to be held in Sitapur, India, February 1966. En route to India he will visit the Universities of Madrid and Athens.

Dr. E. M. Babb,

Ivor, has written a book about Ivor and its environs. He calls the book "his labor of love" for which he recorded the facts and ideas that shaped the civilization of his locality and would be stimulating for not only history lovers but for all Southampton natives.

Expenses-Paid Caribbean Vacation.

The 1965 Medical Economics Award for "the best original article by a physician" is a 10-day expenses paid Caribbean vacation for two. The winner can take the trip any

time between December 1st and March 31st. It includes round-trip air transportation to Jamaica, a stay at the Half Moon Hotel, and many no-cost "extras".

August 31st is the deadline for submissions. Manuscripts, or requests for more information, should be mailed to Awards Editor, Medical Economics, Oradell, New Jersey 07649.

Dr. James M. Moss,

Alexandria, was one of two alumni of the University of Virginia, School of Medicine, to be initiated into the school chapter of Alpha Omega Alpha, national honorary medical society.

J. Shelton Horsley Memorial Lecture-ship.

The 19th Annual Memorial Lecture was held at the Richmond Academy of Medicine on April 27th. Dr. James E. Thompson, One of Three Chief Surgeons, Roosevelt Hospital, New York, spoke on Evolution in the Treatment of Massive Gastroduodenal Hemorrhage.

SAMA-Squibb Scientific Exhibit Awards.

Dr. James S. Wolf, resident at the Medical College of Virginia Hospital Division, was one of the two recipients of the Grand Awards in the Intern/Resident Division and the Student Division of the SAMA-Squibb Scientific Exhibits Program made at the recent meeting of the Student American Medical Association. The winners received a gold medal, a check for \$150.00 and an expense-paid trip to show their exhibit at the annual meeting of the American Medical Association in New York.

Radiologist.

Two Board certified or eligible associates hospitals (total 282 beds) and private practice. Base hospital expanding to 300 beds. Service area covers rapidly growing urban

and rural area with total population of 130,000; described as "one of the most economically stable areas in the nation". Teaching institutions nearby. Excellent income, partnership, no investment, adequate time off. Write Dr. H. M. Price, 15 Starling Avenue, Martinsville, Virginia. (*Adv.*)

Needed.

General physician—family internist—by four-man group in growing rural program in West Virginia. Modern clinic facilities, regularly visiting specialist consultant staff, scheduled training and vacation periods, foundation sponsorship, no investment required. Starting net income range \$14,000-\$18,000 depending on qualifications. Write #20, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Staff Physicians Wanted.

General practitioners 45 or under to assist attending staff and general practice residents in 260-bed general hospital. Annual appointment preferred. \$15,000-\$17,500 depending on training and experience. Contact Medical Director, San Luis Obispo General Hospital, San Luis Obispo, California. Phone: 805-543-1500. (*Adv.*)

Physician Available.

Semi-retired physician available for restricted practice. Institutional work considered. Complete maintenance desired. Virginia license. For further information, write #60, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23221. (*Adv.*)

Wanted

In Richmond area, part-time industrial physician for work with national company. Apply P. O. Box 1798 or call EL 5-7198, Richmond, Virginia. (*Adv.*)

Cooperative Medical Building

In rapidly growing Annandale, Virginia, twenty minutes from downtown Washington, D. C., has suite available for physician. Reply to Carl Crimm, M.D., Annandale Doctor's Building, Annandale, Virginia 22003. (*Adv.*)

Emergency Room Group Practice.

Four physicians wanted for full-time emergency room practice in new hospital in the west end of Richmond, Virginia.

For further information contact Mother Germanus, Sisters of Bon Secours, 5900 Bremon Road, Richmond, Virginia. (*Adv.*)

Obituaries

Dr. John Jacob Giesen,

Radford, died May 16th, at the age of seventy-three. He graduated in medicine from the University of Maryland in 1918 and had practiced in Radford for forty-six years. Dr. Giesen was a charter member, founder and trustee of the Radford Community Hospital. He had served as president of the hospital's board of trustees and the medical staff. Dr. Giesen was a trustee and president of the church council at Christ Lutheran Church, a past commander of the American Legion, and was active in various civic organizations. He was a past president of the Southwestern Virginia and the Montgomery County Medical Societies, and had been a member of The Medical Society of Virginia since 1922.

His wife, two daughters and a son, Dr. J. William Giesen, survive him. A brother is Dr. Andrew F. Giesen, also of Radford.

Dr. Ben Halsey Knight,

Surry Court House, died May 13th after a brief illness following a stroke. He was sixty-three years of age and a graduate of the Medical College of Virginia in 1930. Dr. Knight was medical examiner for Surry

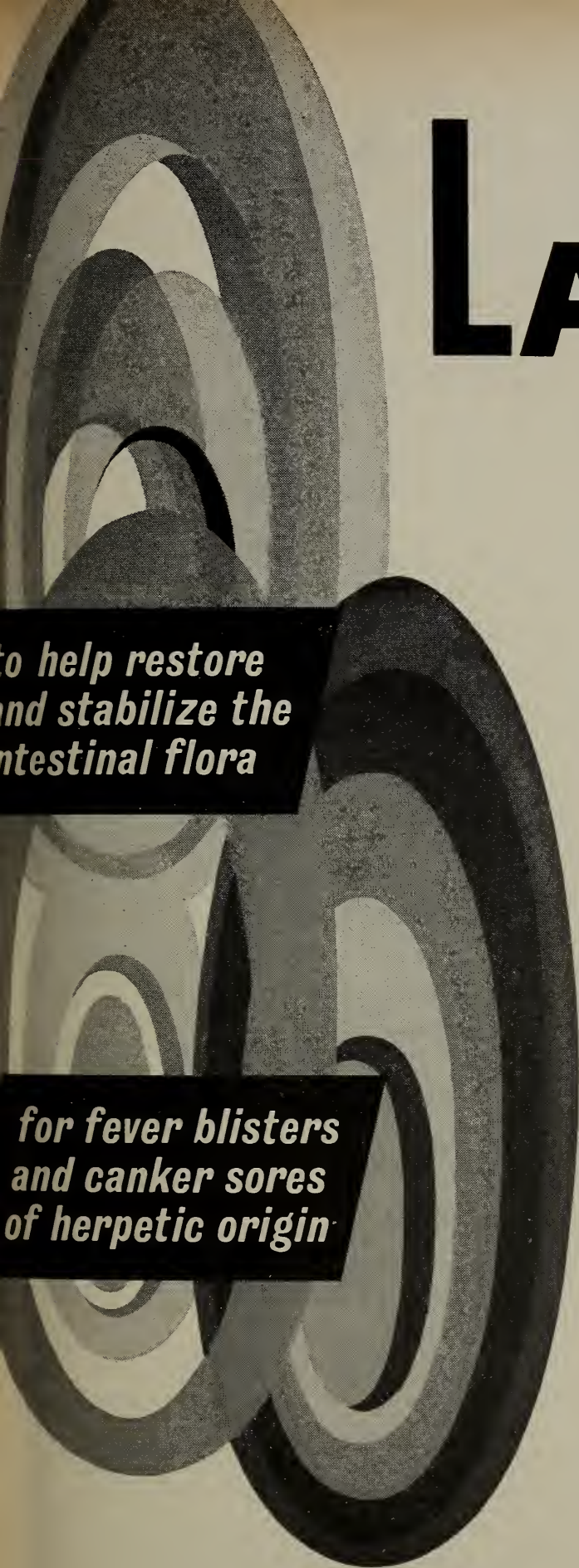
County. He was a past master of the Masonic Lodge, a member of the Scottish Rite and a member of the Khedive Temple of the Shrine in Norfolk. Dr. Knight was a past president of the Fourth District Medical Society. He had been a member of The Medical Society of Virginia for thirty-three years.

His wife and two daughters survive him.

Dr. Dawson Edward Watkins,

Waynesboro, died May 10th, at the age of fifty-eight. He received his medical degree from the University of Virginia in 1931 and began the practice of surgery in Waynesboro in 1934. Dr. Watkins was a former president of the medical staff of the Waynesboro Community Hospital and a former member of the Waynesboro Board of Health. He was vice president of the Virginia Board of Medical Examiners and a former chairman of the Board of Directors of the Virginia Medical Service Association. Dr. Watkins was also a member of the Rotary Club and a Mason. He had been a member of The Medical Society of Virginia for thirty-one years.

His wife, two daughters and two sons survive him.



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(1) Frykman, H.M.: *Minn. Med.*, Vol. 38, Jan. 1955. (2) Poth, E.J.: *The J.A.M.A.*, Vol. 163, No. 15, April 13, 1957. (3) McGivney, J.: *Texas State Jour. of Med.*, Vol. 51, No. 1, Jan. 1955. (4) Stern, F. H.: *Jour. of The Amer. Ger. Soc.*, Vol. 11, No. 3, Mar. 1963. (5) Weekes, D. J.: *N.Y. State Jour. of Med.*, Vol. 58, No. 16, Aug. 1958. (6) Abbott, P.L.: *Jour. of Oral Surg., Anes. & Hosp. Dental Serv.*, Vol. 19, July 1961. (7) Weekes, D. J.: *E.E.N.T. Digest*, Vol. 25, No. 12, Dec. 1963.

HYNISON, WESTCOTT & DUNNING, INC.

(LX02)



BALTIMORE, MARYLAND 21201

VIRGINIA MEDICAL MONTHLY

(Founded by Landon B. Edwards, M. D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

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Annual Subscription—\$2.00

Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL

Pills and Theology—*William M. Bickers, M.D.*..... 345

ORIGINAL ARTICLES

Nonspecific Small Intestinal Ulceration and Stenosis—
Richard E. Palmer, M.D., and John W. Roark, M.D...... 347

Current Trends in Cardiac Surgery—
James B. Littlefield, M.D...... 354

Rupture of the Spleen—*T. Lane Stokes, M.D., and
Levi Old, Jr., M.D.*..... 359

Mucoid Impaction of the Bronchus—*Robert L. A. Keeley,
M.D., and James G. Snead, M.D.*..... 367

Suicides in Virginia—*Ing Hok Sie, M.D.*..... 370

CLINICOPATHOLOGICAL CONFERENCE

Fever, Asphasia and Coma in a Girl..... 377

DIAGNOSTIC LABORATORY MEDICINE

Essential Pentosuria—*O. Bohjalian, M.D.*..... 385

MENTAL HEALTH

Progress Report on PKU—*Benedict Nagler, M.D., and
Juanita Wood* 386

PUBLIC HEALTH

Institute on Advances in the Health Sciences..... 392

EDITORIAL

Bernard M. Baruch (1870-1965)—*Harry J. Warthen, M.D.* 393

NEWS 393

OBITUARY 397

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INDEX TO ADVERTISERS—Page 58

Guest Editorial

Pills and Theology

TIME was when *les affaires du chambre à coucher* were the private concern of man and wife. The physician was consulted on marital problems only occasionally and then after family councils had been exhausted. The patient of Roman Catholic persuasion consulted her parish priest when conscience and a state of grace demanded confession and absolution. The Mexican sweet potato changed all of that. From this root-bulb many steroids essential to human physiology have been fabricated, among them Norethindrone. This is a potent progestogen which in small doses, cyclically administered, suppresses ovulation while permitting cyclic menstruation.

Here at long last was the answer to the demographer's prayer. Planned parenthooders, the eugenic societies and the social planners saw in the "contraception pill" the salvation of the human race. Man's headlong plunge towards dissolution through over-breeding could now be checked. The more cynical and worldly foresaw man's unbridled passions exercising free play without the consequences of Malthusian's law. Everyone was interested. No wonder that the voice of biologist, physiologist, sociologist, physician, school teacher, theologian, priest and rabbi have been heard in the market place. What about the social and religious aspect of the contraceptive pill?

The physician is called upon to treat patients of all religious creeds. What shall he advise his Roman Catholic patients when they seek council on oral contraception. The historic stand of the Church against all means of *artificial* birth control is well known. Does the ovulation suppressing progestogen tablet fall in the category of *artificial* means of birth control? Mayhap! Could it be declared a *natural* means since the physiologic principle is that of ovulation suppression as it occurs during normal pregnancy? It has been suggested that under pressure of modern social and economic forces the Church is moving towards a more liberal interpretation of what is *natural* and what is *artificial*. Maybe so but thus far there is little to support this wishful thinking.

Why the difference of opinion among Christian groups regarding the morality of birth control? There is nothing in the Old or New Testament which forbids the use of contraceptives. The Old Testament does decry the spilling of Ona's seed but there is in Holy Writ no direct reference to the sin of birth restriction. The Catholic Church teaches that divine wisdom comes to man not only through the Old Testament prophets, Christ and the revelations of the apostles but by way of the *natural law*. It is here that the Church bases its objection to *artificial* means of

contraception. The natural law is often quoted but rarely understood. In brief it is the fulfillment of an inborn conscience which directs all men towards good and the perfection of his proper nature. Strictly interpreted this could mean that any technic of contraception for any purpose could be contrary to the natural law. This ultraconservative interpretation received a jolt when Pope Pius XII sanctioned limitation of births through periodic continence. This liberalism has found further expression in Pope John XXIII whose Ecumenical Council is certainly casting an inquiring eye on many of the long established traditions of the Church.

There are those who feel that the principle of *rhythm* having already been accepted, the principle of family limitation is already approved. It only remains to find means within the framework of the *natural law* for the practice of birth control in Catholic families. Both Catholic and Protestant religions teach the responsibility of marriage to establish a family unit which is the keystone of our society and religions. Both have accepted limitation of family under certain conditions. It remains to find a means acceptable to all.

The most liberal viewpoint thus far expressed is that of a distinguished Catholic physician, Dr. John Rock of Boston. In his book, "The Time Has Come", Dr. Rock takes issue with some Catholic theologians. He is a life-long Catholic and practitioner of his faith. He is foremost among the investigators who developed and ascertained the clinical value of the progestogens in suppression of ovulation and its application to the principle of family limitation. Dr. Rock has taken the stand that suppression of ovulation by the progestogens is in keeping with *natural law*. He makes the point that nature suppresses ovulation during pregnancy by the self same means, that is the production of progesterones by the placenta. The theologians do not go along with this concept. The progesterone from the placenta is one thing and that from a bottle quite another. It is unlikely that the Church councils will approve the use of progestogens for suppression of ovulation when the intent is birth control.

What may the physician tell his Catholic patients who seek contraceptive advice? He certainly may in all good conscience recommend the cyclic administration of progestogens from the 15th through the 24th days of the cycle. In the great majority of women this will establish a predictable cycle of periodic bleeding without suppressing ovulation. The physiology of the pituitary-ovarian endometrial system is oriented to a 28-day cycle and the cycle remains a potentially fertile one. Periodic abstinence may be used with more confidence. Abstinence from coitus on the 11th through the 16th days of a cycle whose periodicity is assured by progestogens given on the 15th through the 24th day of the cycle will rarely result in a pregnancy. Such use of the steroids does not inhibit ovulation but favors cyclic menstruation and ovulation to the point where the *rhythm* method of contraception may be more intelligently employed.

WILLIAM M. BICKERS, M.D.

American University School of Medicine
Beirut, Lebanon

Nonspecific Small Intestinal Ulceration and Stenosis

Possibly Associated with Enteric-coated Potassium Chloride-Thiazide Combinations

RICHARD E. PALMER, M.D.

JOHN W. ROARK, M.D.

Alexandria, Virginia

Small intestinal ulceration and stenosis is reported in two patients. This lesion appears to be due to the enteric coated potassium chloride.

PPRIMARY NONSPECIFIC ULCERATION of the small bowel, a rare lesion, was first described by Baille in 1805. By 1963 approximately 172 cases² had been reported in the literature. Interest in this lesion quickened after a preliminary report of 20 cases by Lindholmer et al.³ Fourteen of Lindholmer's cases occurred during an 18-month period. Seventeen had received thiazides and the other three had received drugs for "crural oedema of cardiac origin" but at the time of their preliminary report they had not ascertained the exact type of medication. They indicate that "Most or all of the patients had concurrently been treated with potassium chloride." In November 1964 Baker reported 12 cases of small bowel ulceration, apparently associated with thiazide and potassium therapy.⁴ The implied iatrogenesis of the lesions prompted reporting in the lay press⁵ and Medical Tribune.⁶

Presented at the Virginia Regional Meeting of The American College of Physicians, Williamsburg, February 20, 1965.

The existence of about 100 additional cases since the advent of enteric coated thiazide potassium chloride preparations have recently come to light.^{6,7,9}

Two apparently similar cases were encountered by the authors during the latter half of 1964. These cases constitute the only instances of nonspecific jejuno-ileal junction ulceration with stenosis which have occurred in two general hospitals in Alexandria, Virginia, whose combined capacity is 455 beds.

Case 1

A 70-year-old retired white nurse complained (May 16, 1962) of chills, fever and malaise with urinary frequency, dysuria and left flank pain of five days duration.

Surgical Past History: Appendectomy as adolescent; cholecystectomy for cholelithiasis at age 52; perineal repair at age 67.

Medical Past History: Small cerebrovascular accident in 1962 with complete functional recovery.

She was a mildly obese female appearing her stated age. Oral temperature was 103.4° F. BP 160/100. Pulse regular, 100/minute. Lungs clear. The heart was slightly enlarged. Moderate left costovertebral angle and left flank tenderness elicited. Romberg test positive; tendon reflexes more active on the left; left Babinski test positive. There was slight polymorphonuclear leucocytosis. Urinalysis showed 1+ protein, with many white and red cells. Urine culture grew

E.coli. Electrocardiogram showed myocardial ischemia. Chest x-ray revealed left ventricular enlargement. Barium enema showed diverticulosis and diverticulitis of the descending colon. Upper gastrointestinal series normal except for a small easily reducible hiatus hernia. Calcification within the spleen and a calcified pelvic lymph node were noted. An adenomatous rectal polyp was found on proctosigmoidoscopy and removed. Intravenous pyelogram showed bilateral kidney ptosis and pyelocaliectasis. She responded promptly to treatment for acute pyelonephritis and diverticulitis. Following discharge from the hospital on May 30, 1962, she was seen at two to three month intervals and was free from symptoms.

Physical evaluation revealed no new physical findings in January 1964. By chest x-ray the heart was now within normal limits. Electrocardiogram was not significantly changed from 1962.

On April 15, 1964, the patient was seen because of 10 pounds weight gain over the preceding two weeks without appreciable change in food or salt intake. Dyspnea on exertion had been present for 10 days. Blood pressure 160/90, Pulse 100/minute. Proto-diastolic gallop heard at the apex. The hepato-jugular reflux positive. No peripheral edema. She was taking only aspirin for joint pain. A low residue, high potassium, 1200 calorie diet and hydrochlorothiazide with potassium* 50 mg. and 1000 mg. were prescribed twice daily. Within three hours after the first dose of medication, nausea vomiting and midabdominal cramping pain occurred. The symptoms were controlled to some extent with prochlorperazine** suppositories. The next day, two doses of the thiazide medication again produced midabdominal cramping pain. Several days later she commenced taking chlorthalidone*** 100 mg. every other day with dietary supplement of potassium. After

three or four doses of chlorthalidone excess weight and breathlessness disappeared, but the drug was discontinued because of weakness. Midabdominal pain, nausea and vomiting recurred, however, within one to three hours after taking solid food, and an aversion to the sight of food developed.

On May 4, 1964, she was hospitalized with the diagnosis of intermittent small bowel obstruction. Abdominal tenderness, just above the umbilicus, occurred after taking solid food. Laboratory studies were normal. Barium enema was not significantly changed from that during the previous admission. Upper gastrointestinal and small bowel series were normal except for the small easily reducible hiatus hernia.



Fig. 1. Case 1. Two areas of ulceration of ileum each overlaid by fibrinoid material and showing underlying fibrosis, edema and muscular hypertrophy. (AFIP No. 1154329, 5X).

Liver function and pancreatic function studies were normal. It was demonstrated repeatedly that she was asymptomatic on diets more liquid than a soft diet. With solid food abdominal cramps required narcotics for relief. Plain x-rays of the abdomen at the time of these symptoms were unremarkable. She was given a regular solid hospital diet followed by a cup of barium. X-rays during the symptomatic phase and 24 hours thereafter outlined a normal small bowel with normal progress of the barium.

Laparotomy revealed an annular constricting lesion measuring 2.0 cm. long at

* Esidrix-K: Ciba.

** Compazine: Smith Kline & French

***Hygroton: Geigy.

the level of the jejuno-ileal junction. A segment of intestine including the lesion was resected. The bowel was normal distal to the lesion but proximally it was dilated

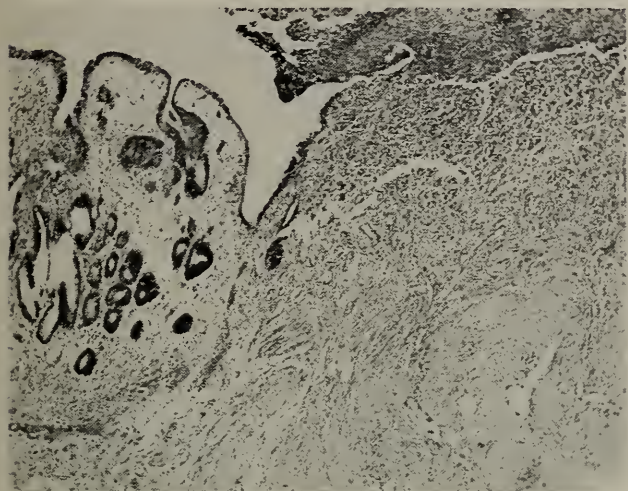


Fig. 2. Case 1. Edge of ulcer showing submucosal fibrosis, telangiectasia and inflammatory exudate. (AFIP No. 1154329, 50X).

to about twice normal size. The lesion contained a mucosal ulcer within the stenotic fibrotic area. Microscopically, the ulcer was

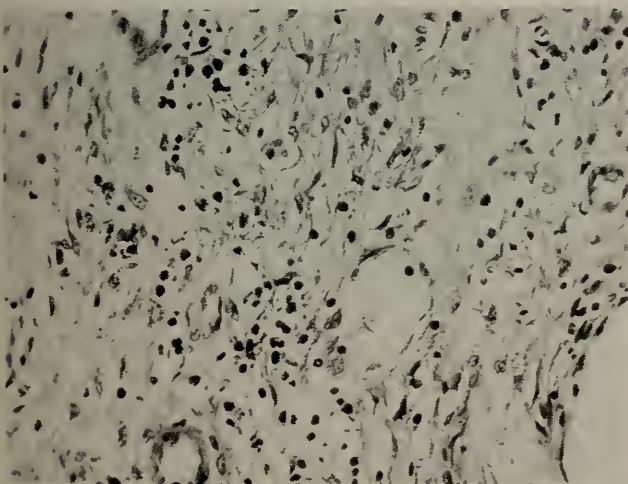


Fig. 3. Case 1. Submucosa beneath ulcer showing fibroblastic proliferation, dilated blood vessels and inflammatory exudate consisting of lymphocytes and eosinophils. (AFIP No. 1154329, 300X)

overlaid by fibrinoid material and the underlying submucosa, and wall showed fibrosis, edema and muscular hypertrophy. A small patch of mucosa remained in the center of the ulcer (Fig. 1). The ulcer edges showed submucosal fibrosis, telangiectasia and an acute and chronic inflammatory cellular exudate (Fig. 2). The submucosa showed fibroblastic proliferation, dilated

blood vessels and prominent infiltration with lymphocytes and eosinophils (Fig. 3). The serosa was vascular and infiltrated with similar inflammatory cells (Fig. 4). Some

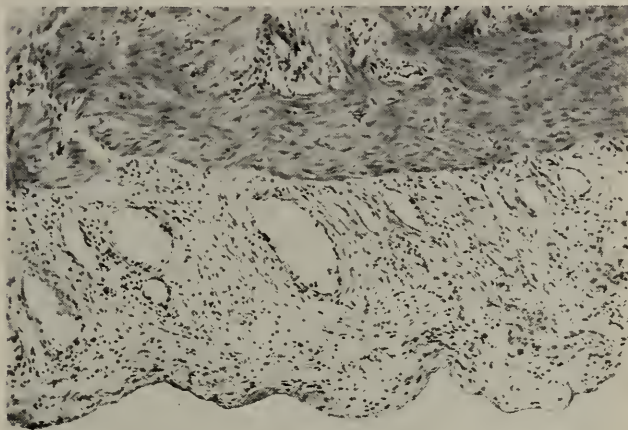


Fig. 4. Case 1. Thickened edematous serosa showing telangiectasia and infiltration with lymphocytes and eosinophils. (AFIP No. 1154329, 115X)

of the small veins in the mesenteric fat showed perivascular infiltration with lymphocytes and eosinophils (Fig. 5).

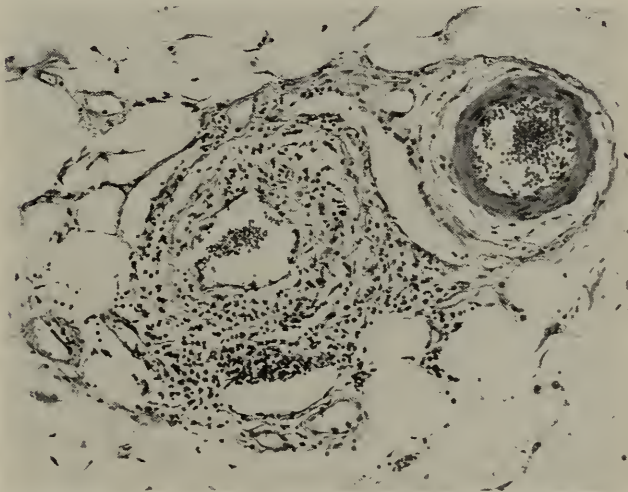


Fig. 5. Case 1. Vein in mesenteric fat showing perivascular infiltration with lymphocytes and eosinophils (AFIP No. 1154329, 165X)

Case 2

A white professional man 67 years of age of moderate habits was first seen in September of 1963. Following a bout of rheumatic fever at age 21, he had been well and active. In September 1960 he was treated for congestive heart failure and atrial fibrillation with hydrochlorothiazide* and gitalin with

* Esidrix: Ciba.

good response. In May of 1963 a bout of acute cholecystitis was treated conservatively. Cholecystogram showed a non-functioning gallbladder. In September 1963 rheumatic heart disease, atrial fibrillation, aortic insufficiency, mitral insufficiency and stenosis were diagnosed. He was in mild congestive heart failure. He was re-digitalized with digitalis leaf, placed on hydrochlorothiazide with potassium chloride enteric-coated tablets,* 50 mg. and 1000 mg. respectively twice daily plus a low-fat, high potassium diet. On this regime he maintained normal work tolerance. Intermittent attacks of right upper quadrant pain and tenderness were interpreted as gallbladder attacks. Two of these episodes required hospitalization. The second attack, in January 1964, was associated with mild pancreatitis. Cholecystogram again showed a non-functioning gallbladder. Upper gastrointestinal series and barium enema were normal. Gallstones and a chronically diseased gallbladder were removed in June 1964. The appendix was not removed. Recovery was uncomplicated. His medical regimen remained the same except that he was allowed a free diet with no added salt. He took digitalis regularly, but hydrochlorothiazide with potassium* only when ankle edema appeared. He complained intermittently of lower abdominal cramping for which he was given a prescription containing belladonna, phenobarbital and Taka-Diastase. This medication was taken on about six occasions.

On November 21 he attended a football game involving a five hour round trip by car. On the return trip he had lower abdominal cramping. The next morning he did not feel well and had mild ankle edema for which he took hydrochlorothiazide with potassium. Intermittent peri-umbilical and right lower quadrant pain was present during the morning but he felt well enough to eat dinner in the late afternoon. He vomited once during the evening. In the late

evening and early morning hours the pain worsened in spite of the antispasmodic medication.

At 5 A.M. on November 23, 1964, he was in acute distress from abdominal pain, mainly in the right lower quadrant. Oral temperature was 100° F., blood pressure 120/70. Apical and radial heart rate irregular at about 100/minute. The lungs were clear. Atrial fibrillation, loud aortic diastolic, apical diastolic and systolic murmurs and cardiomegaly were noted. The abdo-

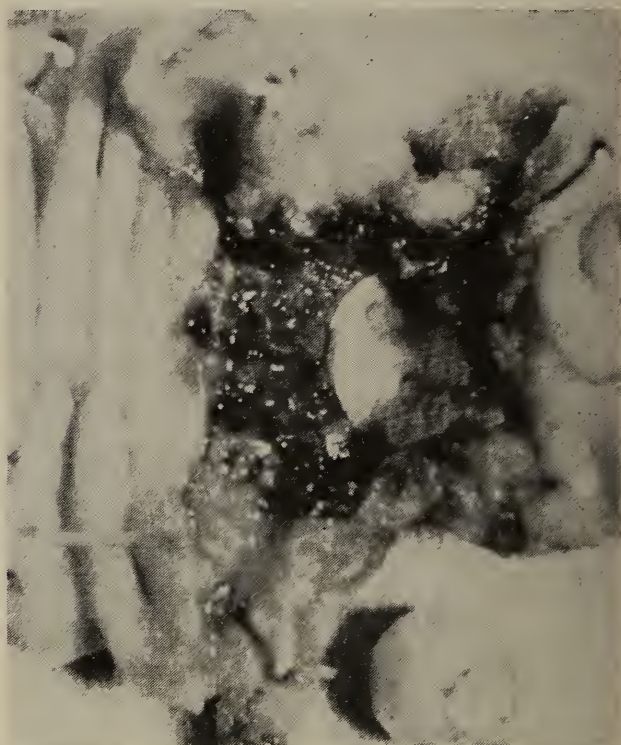


Fig. 6. Case 2. Resected segment of ileum showing perforated ulcer, constricted area of ileum and dilated proximal segment of small bowel. Note the tablet, adjacent to the ulcer, that was found in the peritoneal cavity.

men was flat and moderately hard with rigidity on the right. Tenderness and rebound tenderness were most marked in the right lower quadrant. Rectal tenderness was present high on the right side. Peristalsis was absent. Urinalysis was normal. Hematocrit was 53%. Leucocyte count was 21,000 with 92% polymorphonuclear leucocytes, 4% band forms and 4% lymphocytes. Chest and abdominal x-rays were negative except for cardiomegaly. A laparotomy was performed. A perforation was found, near the jejuno-ileal junction, just

* Esidrix-K: Ciba.

proximal to a 1.0 cm. constricted area. A tablet found free in the peritoneal cavity proved on chemical analysis by the Food and Drug Administration and Ciba Pharmaceutical Company to be a thiazide with potassium chloride. The resected segment of ileum measured 6.1 cm. long. The serosa was covered by tags of creamy yellow plastic exudate. The midportion of the specimen was constricted. Proximal to the constriction there was a perforation measuring 1.4 x 1.0 cm. The mucosa showed an ulcer measuring 2.1 cm. in diameter. The central portion of the ulcer was perforated (Fig. 6). The circumference of the ileum near the proximal line of resection was 4.5 cm.



Fig. 7. Case 2. Margin of ulcer and perforated edge. Note vascularity and widespread extravasation of blood. (AFIP No. 1154330, 8X)

while near the distal line of resection it was 2.8 cm. The perforated edge of the ulcer showed marked vascularity and widespread extravasation of blood (Fig. 7). The mucosa showed desquamated epithelium and focal areas of hemorrhage high in the mucosa while deeper there was infiltration with lymphocytes and eosinophils (Fig. 8). The submucosa showed marked edema, dilated venules and lymphocytic infiltration around some veins (Fig. 9). The serosa was overlaid by acute inflammatory exudate.

The postoperative course was characterized by a bout of gastrointestinal bleeding

due to hypoprothrombinemia due to coumadin and a "stitch abscess" developed. A skin rash, oral moniliasis and diarrhea developed but all subsided when penicillin and

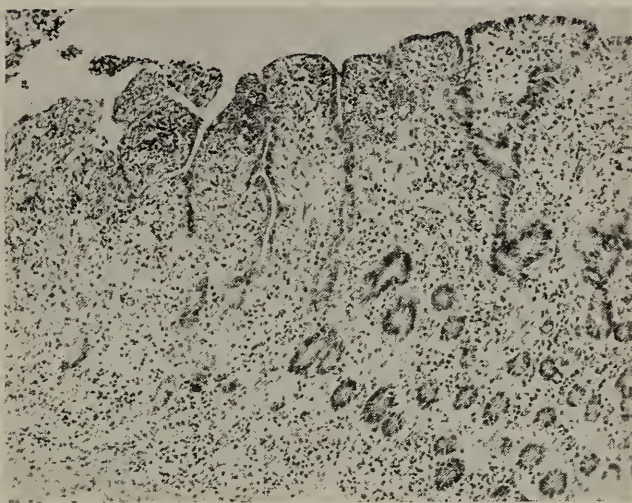


Fig. 8. Case 2. Margin of ulcer showing desquamated epithelium, focal areas of hemorrhage high in the mucosa and infiltration of the deeper mucosa with lymphocytes and eosinophils. (AFIP No. 1154330, 120X)

chloromycetin were discontinued. He was discharged after about four weeks and at that time had no gastrointestinal complaint.

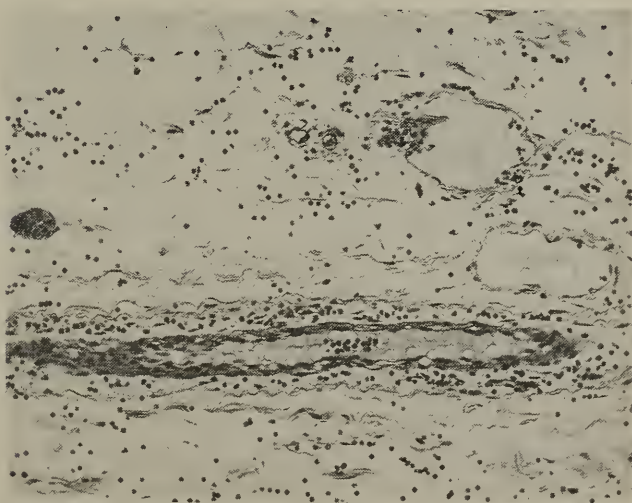


Fig. 9. Case 2. Submucosa showing edema, dilated venules and lymphocytic infiltration around a vein. (AFIP No. 1154330, 145X)

Discussion

Severe abdominal pain developed in the first case after a single dose of enteric-coated hydrochlorothiazide with potassium chlo-

ride.* The symptoms recurred with two further doses of the medication. The patient was, however, able to tolerate chlor-thalidone** 100 mg. After removal of a stenotic segment of small bowel containing an ulcer the patient was able to tolerate enteric hydrochlorothiazide with potassium chloride* without difficulty.

The onset of symptoms (Case 1) after one dose of hydrochlorothiazide with potassium chloride* supports speculation that, in some instances, existing vascular compromise of the bowel may produce secondary stenosis of the bowel. This may be a contributing factor to the increased incidence of this lesion since the advent of enteric-coated potassium chloride preparations.

The second patient had longstanding auricular fibrillation and was therefore a candidate for mesenteric artery embolization which could have produced small areas of intestinal infarction, scarring and stenosis.

The lack of reports of the lesion in young persons, without vascular disease, who have received thiazide and potassium chloride circumstantially implicates a vascular disease as a possible etiologic factor.

Since most of the lesions have occurred at a point in the intestine proximal to which disintegration and absorption normally take place,^{4,6,7} the possibility of faulty digestion is raised as a possible predisposing factor. Both of our patients had had cholecystectomies, but was no evidence of digestive disorder. Digestive disorders were not present in the majority of the cases previously reported.^{4,6}

In any untoward effect of drugs the question of hypersensitivity arises. In the second case hypersensitivity to enteric coating is a possibility, inasmuch as the capsule found had an intact coating. No information relating to the exact composition of the coating is available, nor have adverse reactions

to it been reported. The ability of the first patient to take hydrochlorothiazide with potassium chloride following operation would seem to eliminate hypersensitivity to any part of the tablet as a possible causative factor.

That potassium chloride will irritate the gastrointestinal tract is widely known in the pharmaceutical profession, hence the development of enteric-coatings for large dose potassium chloride therapy which is necessary when thiazides are prescribed. Studies in monkeys and dogs fed large doses of potassium chloride, with and without occlusion of mesenteric vessels, produced ulcers and stenotic lesions similar to those reported associated with thiazide and potassium.⁷ Altered tissue reactivity due to the effect of concentrated potassium chloride upon the intestinal tissues in individuals possibly rendered susceptible by vascular disease and/or intrinsic intestinal disease may be an etiologic factor.

The prevention and diagnosis of this lesion rests upon awareness of the relationship between the medications and gastrointestinal symptoms. X-ray findings, when the lesion is present, vary from normal patterns to findings of constricted areas in the jejuno-ileal junction region or partial obstruction with proximal dilatation of the small intestine.⁸ When perforation is present it is usual to see leucocytosis,⁴ and signs of peritoneal irritation.

Summary and Conclusion

Two cases of nonspecific small intestinal ulceration with stenosis in patients who received enteric-coated thiazide potassium chloride are reported. The possible etiologic relationship of the medication to this lesion is discussed.

The tentative conclusions are that:

1. Enteric-coated potassium chloride is the most likely offending agent;
2. Pre-existing vascular disease of the mesentery is frequently present;

* Esidrix-K: Ciba.

** Hygroton: Geigy.

3. Hypersensitivity to the enteric-coating or to thiazide are not involved in the majority of cases;
4. Less irritating forms of potassium supplement such as foods high in potassium should be used when possible;
5. Potassium donating chemicals should be sought with less tissue irritating properties.
6. Hopefully a thiazide or drug having a comparable effect will be developed but this drug should have a selective effect upon sodium excretion while leaving potassium excretion unaffected.

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Mutilation or Prophylactic Surgery?

In his many years of medical practice in northern Morocco, Charles A. Apffel, M.D., met many patients who had no uvula, the fleshy pendant at the back of the soft palate. He discovered that the ancient custom of surgical removal of the uvula in early childhood persists among certain Moroccan tribes.

Dr. Apffel made another discovery: in none of more than 200 persons on whom the operation had been performed could he see or feel any trace of tonsils or adenoids. The child's regional lymphoid tissue simply doesn't developed after the operation, he concluded. "Such individual may contract a diffuse pharyngitis, but never a tonsilitis or adenoiditis," Dr. Apffel writes in the July 12th *Journal of the American Medical Association*.

Uvulectomy's bearing on reduction of rheumatic fever or chronic arthritis can only be suspected. However, eliminating

the uvula gets rid of one center of infection.

Uvulectomy, as practiced in northern Morocco, has no religious motivation and is not related to any of the rites enjoined in the Koran. It is transmitted from generation to generation as a family tradition. It is meant to aid breast feeding and speech. The operation is customarily performed by the sexton of the neighborhood mosque, or by a barber. Many Moroccan barbers still act as practical surgeons.

"Whatever the consequences of neonatal uvulectomy, they point to a close interdependence between the uvula and the constituents of the Waldeyer ring (the adenoidal tissue formed by the lingual, pharyngeal, and faucial tonsils)."

The custom may have originated in the ancient Spanish medical schools, and then been transferred to northern Morocco when the Moors were forced out of Spain.

Current Trends in Cardiac Surgery

JAMES B. LITTLEFIELD, M.D.
Charlottesville, Virginia

Rapid progress is being made in the field of cardiac surgery. The impossible of a few years ago is now done with ease and these advances will probably continue.

CARDIAC SURGERY has made rapid advances during the last decade. Surgical techniques, diagnostic methods, instruments, and equipment have been refined and improved. It is the purpose of this presentation to summarize current trends in the field of cardiac surgery.

Acquired Valvular Disease

Acquired mitral valvular disease is treated by both an open and closed approach to the mitral valve. At the University of Virginia, closed operations are performed for acquired, uncomplicated mitral stenosis. The use of a mechanical dilator, when needed, has increased the effectiveness of the closed mitral valvulotomy. An open approach employing extracorporeal circulation, is used in the presence of predominant mitral insufficiency, severe calcific mitral stenosis, and congenital deformities of the mitral valve.

The open cardiac approach is employed for all aortic and pulmonic valve lesions permitting an unhurried examination and correction of the valvular defect under direct vision. Occasionally, it may be nec-

essary to enlarge or totally replace the tricuspid valve utilizing extracorporeal circulation.

Successful methods have been developed during the past three years for the replacement of cardiac valves by an artificial prosthesis. Two major types of valves have been used clinically during this period; tricuspid prostheses, constructed of coated Teflon or Dacron fabric, and rigid prostheses containing a silicone ball within a caged enclosure of stainless steel.

A tricuspid, Teflon aortic valve prosthesis, developed in our Surgical Research Laboratory, has been used successfully in patients for periods up to three years.

The ball-valve, developed by Starr and Edwards, is currently the most frequently used prosthesis for total replacement of the aortic or mitral valve. The aortic prosthesis is smaller, lighter and of slightly different design than the mitral prosthesis. Anticoagulant therapy is recommended following the insertion of these prostheses.

Valve homografts are now under investigation and may prove useful, particularly as a substitute for the diseased aortic valve.

The ideal prostheses for cardiac valve replacement remain to be developed; current trends are in the direction of a coated fabric or ball-valve unit. It must be emphasized that the patient who receives a valvular prosthesis is severely ill, the valvular damage cannot be satisfactorily repaired, and the predicted life expectancy is often less than a year without surgical treatment.

The importance of an undelayed operation for the patient with an established diagnosis of severe aortic valvular stenosis cannot be too strongly emphasized; sudden death in this group of patients is not unusual during the period they await elective sur-

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Presented at the Annual Meeting of The Medical Society of Virginia, Roanoke, October 6-9, 1963.

gery. Therefore, these patients should be operated upon during their initial hospitalization, immediately following cardiac catheterization, and not discharged for subsequent re-admission and elective surgical treatment.

Congenital Heart Disease

The infant less than two years of age with persistent cardiac failure, despite adequate medical therapy, presents a special problem in the treatment of congenital heart disease. These patients require careful cardiac catheterization and angiographic studies, because an accurate preoperative diagnosis is mandatory if surgical management is to be effective.

Infants and children in persistent cardiac failure with pulmonary hypertension and a significant ventricular septal defect are usually improved by the creation of pulmonary artery stenosis. The original operation for narrowing the main pulmonary artery, which was performed clinically and described by Muller and Dammann in 1952, has now been modified by creating the stenosis with an encircling fabric band. There is usually a remarkable change in these severely ill patients following operation. The excessive pulmonary blood flow is reduced, pulmonary artery pressure is lowered, cardiac failure regresses, and growth and development improve. When indicated, this operation of course may be performed at any age.

Recent evidence demonstrates that hypertrophied muscular pulmonary arteries, which result from the pulmonary hypertension, return to normal within three to six years following the creation of pulmonary artery stenosis. Closure of the ventricular septal defect should probably be delayed from three to six years, or longer, after narrowing the pulmonary artery. The exact period depends upon the age of the patient, the severity of the initial pulmonary vascular changes, and the postoperative results of the pulmonary stenosis. The nar-

rowed pulmonary artery is enlarged at the definitive operation for closure of the ventricular septal defect.

The patient without a ventricular septal defect, or with a small defect, is not improved by narrowing the pulmonary artery, therefore, an accurate preoperative diagnosis must be established.

Occasionally, definitive open heart procedures, employing extracorporeal circulation, must be performed upon the infant with severe cardiac decompensation who fails to respond to vigorous medical treatment (i.e., patients with total anomalous venous return and endocardial cushion defects).

An eight month old infant, weighing 7½ pounds, with persistent, severe cardiac failure was admitted to the University of Virginia Hospital for evaluation. The diagnosis of an ostium-primum atrial septal defect was established. This infant was treated vigorously for eight weeks, but showed minimal improvement in growth and her cardiac decompensation persisted, therefore, definitive surgical treatment was performed. The cleft in the mitral valve leaflet was repaired and the large atrial septal defect was closed using extracorporeal circulation. The infant showed immediate improvement and has done well during the sixteen months since operation.

The cyanotic, persistently symptomatic, small child with Tetralogy of Fallot is usually treated by a Blalock, or Potts, systemic-pulmonary anastomosis. Total, open-heart correction of this defect is generally not recommended until the child is at least five or six years of age.

Anastomosis of the superior vena cava with the right pulmonary artery is currently being used more frequently for the treatment of congenital tricuspid atresia. The success of this operation is limited by the size of the patient's pulmonary artery; therefore, in the small infant, a side-to-side aortic-pulmonary anastomosis is usually preferred.

Postoperative Care

Postoperative care of the cardiac surgical patient, particularly after extracorporeal circulation, is most important and currently is becoming more specialized. Immediately after operation, at the University of Virginia Hospital, these patients are placed in the Intensive Care Unit under the constant supervision of trained personnel 24 hours a day. Monitoring equipment records the patient's electrocardiogram, arterial pressure, venous pressure, and, when indicated, the pulmonary artery and left atrial pressure, during the first 24 to 48 hours after operation. The use of central venous and arterial blood pressure cannulas, which reflect changes in blood volume and early cardiac failure, are invaluable. In the infant and small child, these pressure cannulas reflect small variations in blood volume which are immediately corrected. The cannulas remain in place throughout the operative procedure and for 24 to 36 hours following operation. At frequent intervals, arterial pH, pO_2 , and pCO_2 are determined; these values are of great importance in the evaluation and control of the patient during the early postoperative period.

The infant, or child, with pulmonary hypertension and persistent cardiac failure prior to operation, as well as the adult with severe cardiac and pulmonary disease, often present a problem with regard to adequate pulmonary ventilation in the immediate postoperative period. When the blood gas determinations indicate a need for respiratory assistance, the precision Engstrom Respirator is usually used. During the past three years, we have found this respirator to be an excellent unit for prolonged, continuous, intermittent positive pressure breathing. Other types of respirators are used for short periods. The cuffed, plastic, endotracheal tube may be left in place for 48 hours following operation but, beyond this period, we usually perform a tracheostomy to facilitate positive pressure breathing.

Hypothermia

Hypothermia has been an important adjunct to cardiac surgery for many years. Prior to the universal use of extracorporeal circulation, external total body cooling to 29 degrees centigrade permitted operations to be performed within the open, beating heart for short periods. Currently, hypothermia is used principally in conjunction with extracorporeal circulation. Moderate hypothermia (32° to 34° C.) induced by a cooling mattress is occasionally indicated during the patient's early postoperative period.

Selective hypothermia is sometimes used to cool the heart to 5 or 10 degrees centigrade during extracorporeal circulation, while body temperature is maintained between 30 and 37 degrees centigrade. The use of selective hypothermia is not universal and depends upon the preference of the surgeon.

Extracorporeal Circulation

The need for large amounts of fresh, heparinized blood to prime heart-lung machines has resulted in a search for more economical methods of priming these systems. Citrated banked blood, less than five days old, with heparin added may be used in place of freshly drawn blood. Heart-lung units are currently being utilized which require less blood than former models; and all types of extracorporeal systems may be partially primed with a physiological glucose-saline solution (i.e., hemodilution). This method of hemodilution not only reduces the need for blood but also decreases the hazards which may be associated with the arterial transfusion of homologous blood.

The type of oxygenator used with a heart-lung machine is very important, particularly when prolonged extracorporeal circulation may be required. One of the most physiological units currently being developed is the membrane oxygenator. This unit simulates the human lung by

completely separating the circulation of blood from the oxygen present through a series of thin plastic membranes. This arrangement has the desirable advantage of allowing the oxygen to reach the red-cell without creating a direct oxygen-blood interface and differs from other oxygenator units which mix blood and oxygen directly.

The development of an efficient membrane type oxygenator for clinical use would greatly prolong effective cardiopulmonary bypass, in the treatment of intractable cardiac failure preceding or following operation, in patients with acute alveolar-capillary block of the lungs, and in patients with failure of the left ventricle from coronary artery occlusion.

Cardiac Defibrillation

The present availability of the direct current defibrillator, with internal and external electrodes, have improved the efficiency of cardiac defibrillation. Its use externally permits effective resuscitation of the heart by external massage and defibrillation in most instances without entering the thorax. Experimental studies have shown that its electrical impulse of short duration produces insignificant damage to the myocardium.

In the surgical patient with atrial fibrillation, or flutter, we have found it most important to defibrillate the atria at the time of operation before extracorporeal circulation is discontinued. Defibrillation immediately improves cardiac output and reduces the chances of thrombus formation within the atria. When defibrillation is unsuccessful or if atrial fibrillation recurs, external defibrillation should be attempted, preferably before the patient is discharged from the hospital, and certainly within the first several weeks of the postoperative period.

Hyperbaric Oxygen Therapy

Naval services of the world have utilized high atmospheric pressure chambers for many decades to combat the "bends" in their deep sea divers. Recently, in Europe

and the United States investigators have renewed their interest in the use of oxygen under increased pressure, referred to as hyperbaric oxygenation. Several types of high pressure chambers, capable of safely administering three or more atmospheres of pressure to the patient are currently available.

Hyperbaric oxygen therapy has been used to a limited degree clinically. After current investigative studies have been completed it may prove to be a very useful modality in the treatment of acute coronary occlusion, vascular insufficiency, anaerobic infections, transient pulmonary insufficiency and cyanotic heart disease.

Cardiac Pacemakers

Currently available permanent internal cardiac pacemakers have proven very successful in the treatment of patients with complete heart block (Stokes-Adams Disease, following cardiac surgery, etc.)

The temporary use of an intravenous catheter electrode is helpful in preparing the patient for implantation of a permanent internal pacemaker; cardiac output is increased, heart failure when present is improved, and the heart rate can be effectively controlled during the induction of anesthesia and implantation of the pacemaker electrodes into the ventricle. When the intravenous catheter electrode is ineffectual in improving cardiac output this usually indicates severe myocardial impairment and contraindicates the implantation of a permanent pacemaker.

The currently used permanent internal pacemakers, with their improved electrodes implanted directly into the myocardium, and their power sources placed subcutaneously, are expected to remain effective for five years or longer. The power source may be replaced without disturbing the implanted electrodes and the amplitude and rate of the pacemaker may be altered by inserting a needle through the skin into the sealed power unit.

The currently available permanent internal pacemakers with a reliable, prolonged, power source has greatly improved the prognosis of patients with Stokes-Adams Disease and heart block following cardiac operations.

Summary

Current cardiac surgical trends in the care of patients with acquired and congenital heart disease have been presented.

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Emergency Medical Identification

Almost two years ago American physicians, through the American Medical Association, announced a new universal symbol which tells anyone rendering emergency care to a person who is unconscious or otherwise unable to communicate that its wearer has a special physical condition requiring special attention.

In the intervening two years the symbol has gained world-wide acceptance. It has been widely disseminated throughout the United States and, through the World Association, is now being utilized in many other nations.

The symbol may be displayed on a wristlet, an anklet, a medallion around the neck or elsewhere. It is a sign that there are vital medical facts on a personal health information card in the bearer's purse or wallet or on an alerting device.

The symbol is a hexagon-shaped emblem containing a six-pointed figure, or sign of life. Superimposed on the figure is a staff with a snake entwined about it—the staff of Aesculapius, the insignia of the medical profession.

The symbol is used by many individuals. Diabetic coma, for instance, sometimes makes its victims appear intoxicated, and treatment may be dangerously delayed. The symbol also is used to indicate allergies to antibiotics, such as penicillin.

The need for certain medicines must be known. Heart patients taking drugs to prevent blood clots may bleed profusely if injured unless they receive special care. Epileptics could be saved much trouble and unnecessary hospitalization if they carried a card indicating they may have seizures.

The American Medical Association recommends that everybody have a card, such as the AMA emergency medical identification card, to show who they are, where they live, whom to call if they become ill or injured, the name of their doctor, and when they were immunized, particularly against tetanus, or lockjaw. On this card should be noted any special problems that need immediate attention in an emergency or could cause an emergency.

Some people's problems are so serious that it is absolutely essential for the first aider to know about them in an emergency. A durable signal device made of metal or plastic should be worn by such people, preferably about the neck or on the wrist or ankle.

Many organizations and manufacturers sell durable signal devices for emergency medical identification. The names of those reported to the AMA may be obtained by writing to Emergency Identification-AMA, American Medical Association, 535 N. Dearborn St., Chicago, Ill., 60610. The AMA emergency identification card also is available from the same address.

Rupture of the Spleen

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LEVI OLD, JR., M.D.
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The clinical picture of rupture of the spleen is sometimes atypical, and careful diagnosis is important. Early laparotomy with splenectomy is the treatment of choice.

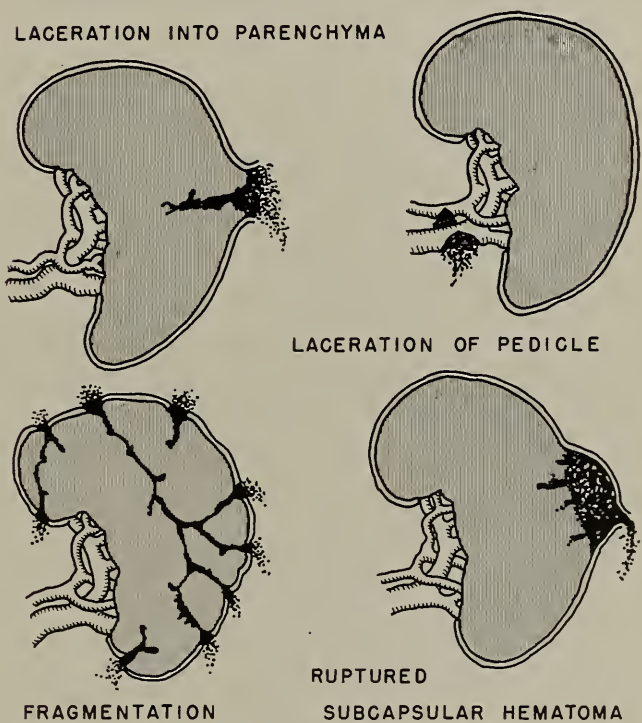
RUPTURE OF THE SPLEEN constitutes a true surgical emergency which may not present a classical clinical picture and may demand diagnostic acumen to achieve low morbidity or mortality by early laparotomy and splenectomy.

Although ruptured spleen accounts for only approximately one of every 25,000 hospital admissions, it is responsible for nearly one of every 1,000 traumatic surgical admissions. It is associated with other injuries in 50% of cases and about 1/3 of these are other intra-abdominal injuries. While the mortality of ruptured spleen alone is only 5%, the mortality rate of ruptured spleen with associated injuries is approximately 30%.

The primary reason for splenectomy is trauma and the primary agent of trauma today is the automobile, but review of a number of large statistical surveys of splenectomies blames the surgeon as the second leading producer for the need for splenectomy by inadvertent surgical trauma, especially during upper abdominal operations.

Whatever the trauma, the immediate rupture of the spleen may be characterized by laceration of the parenchyma or a tear

of the splenic pedicle or occasionally the spleen is actually fragmented. Less frequently, a delayed rupture of the spleen may result either from an unruptured subcapsular hematoma or a large localized perisplenic hematoma, and produce an atypical clinical picture.



IMMEDIATE SYMPTOMS

Fig. 1

The delayed rupture of the spleen accounts for approximately 15% of all ruptured spleen cases and approximately 75% occur within two weeks of the injury.

Diagnosis of ruptured spleen, immediate or delayed, and especially in infants and children may be difficult. The classic picture based primarily on shock, with hypotension, rapid pulse, pallor, apprehension, restlessness, thirst, weakness, and vasomotor

Presented at the Annual Meeting of The Medical Society of Virginia, Norfolk, October 11-14, 1964.

collapse is present in only 50% of cases. Most commonly, however, the patient shows evidence of trauma and, in about 95% of

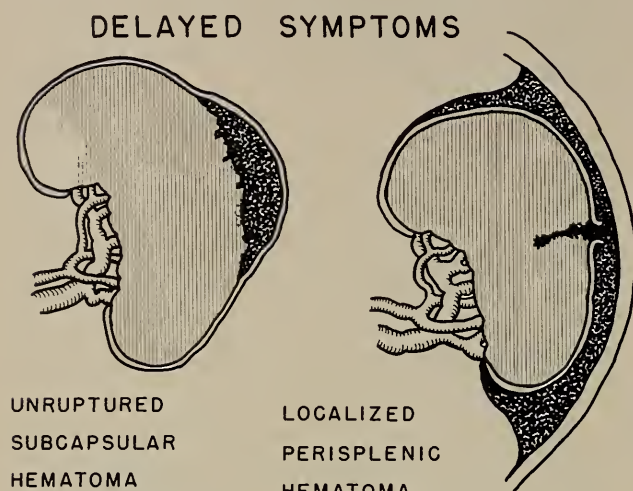


Fig. 2

the cases complains of abdominal pain, especially in the left upper quadrant. In only about 10% of the cases is pain referred to the left shoulder (Kehr's sign).

Physical findings may be those of associated peritoneal irritation and of blood loss.

Diagnostic aids include laboratory studies, x-ray examination, and abdominal paracentesis. A progressively falling hemoglobin and hematocrit is present in approximately 75% of patients, but leukocytosis, a more reliable indicator, is present in nearly 90% of cases.

Roentgenography shows no single pathognomonic sign of ruptured spleen and is not generally helpful. When rupture of the spleen, either immediate or delayed, results in left upper quadrant blood accumulation, this may be reflected by elevation of the left diaphragm, displacement of the gastric shadow medially, and the splenic colon flexure downward. The so-called saw-toothed distortion of the gastric greater curvature, when present, results from hematoma stretching the gastrosplenic ligament and is more easily seen when the stomach is distended with air.

An intravenous pyelogram sometimes has pertinent value, not alone limited to patients with gross or microscopic hematuria.

Abdominal paracentesis is of help in the diagnosis of ruptured spleen when the clinical picture is not obvious. A large intracath* has ready availability, more accuracy, and possibly lessened hazard of bowel perforation. It may be introduced into the left upper abdomen through a locally anesthetized left upper quadrant abdominal wall and if syringe aspirations show a free flow of bloody fluid, the diagnosis of ruptured viscus is fairly certain. A negative paracentesis has little diagnostic significance.

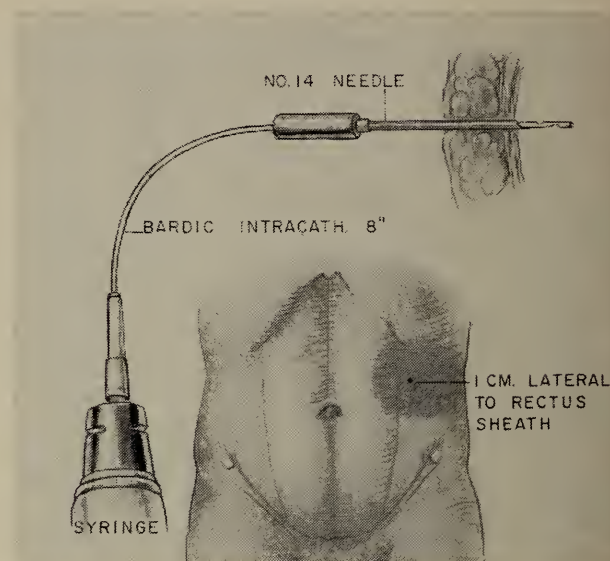


Fig. 3

When the diagnosis has been ascertained, preoperative measures include early restoration of blood volume. Decompression of the stomach with a large Levin tube is important. Associated injuries, especially orthopedic, receive at least temporary management. A Foley catheter has value and may increase the accuracy of urinary output recording.

Preoperative medication is individualized and endotracheal anesthesia preferred.

The technique of splenectomy is facilitated by adequate exposure. In the elective splenectomy, done usually for hematological reasons, a left subcostal incision has advantages, but in the emergency case where there

*Bardic Deseret intracath, C. R. Bard, Inc., Murray Hill, N. J.

may be other intraperitoneal problems, a left vertical rectus incision from the xiphisternal junction to beyond the umbilicus provides more versatility and may be extended laterally for further exposure.

EMERGENCY INCISION ELECTIVE INCISION

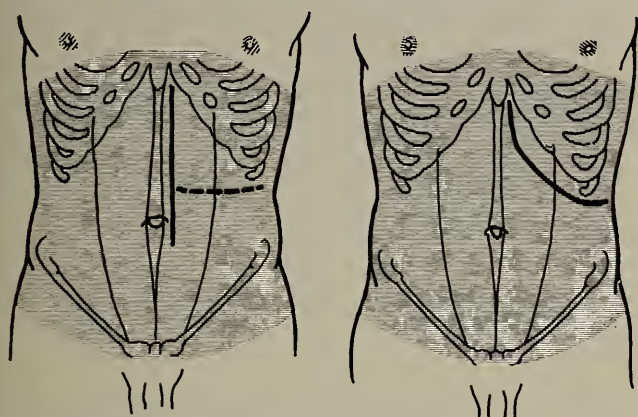


Fig. 4

Mobilization of the spleen requires division of its supporting attachments and these ligaments are cut under direct vision by proper retraction and careful ligation of bleeding vessels. Ligation of the vasa brevia of the gastrosplenic ligament by including seromuscular sutures of the stomach helps prevent gastric distention from disrupting

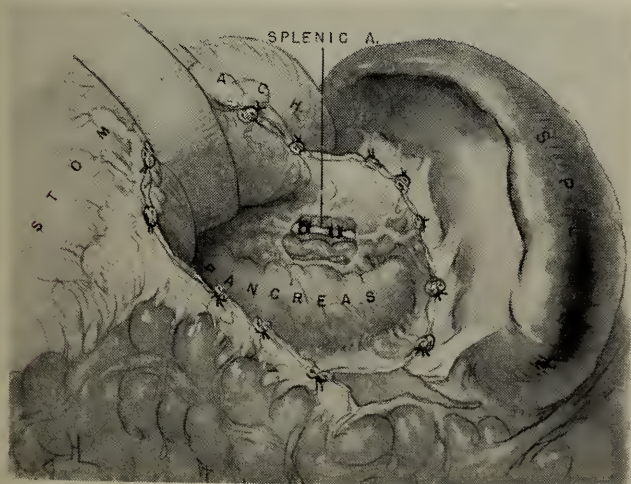


Fig. 5

these suture ligatures. Delivery of the spleen into the abdomen permits precise identification of the major vessels and the pancreatic tail necessary to prevent the complication

of pancreatic fistula or postoperative hemorrhage.

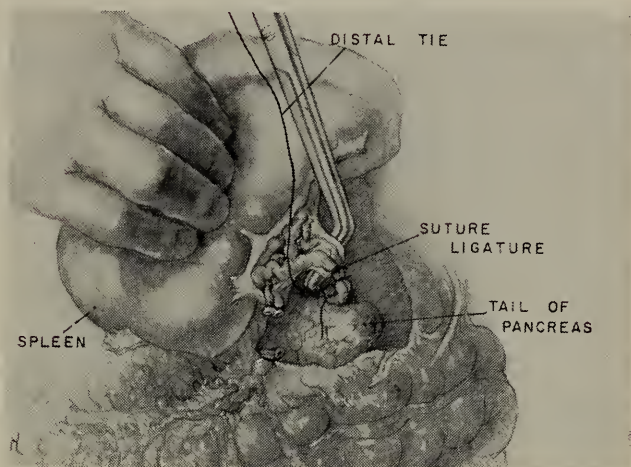


Fig. 6

Careful and precise ligation of splenic vessels with heavy suture material which is not so liable to tear thin walled veins and leaving at least a 1-2 cm. vascular stump decreases the incidence of postoperative hemorrhage. Following splenectomy, the restoration of the pedicle to the depth of the abdomen for re-examination under adequate light may permit identification of previously obscure bleeding points. With

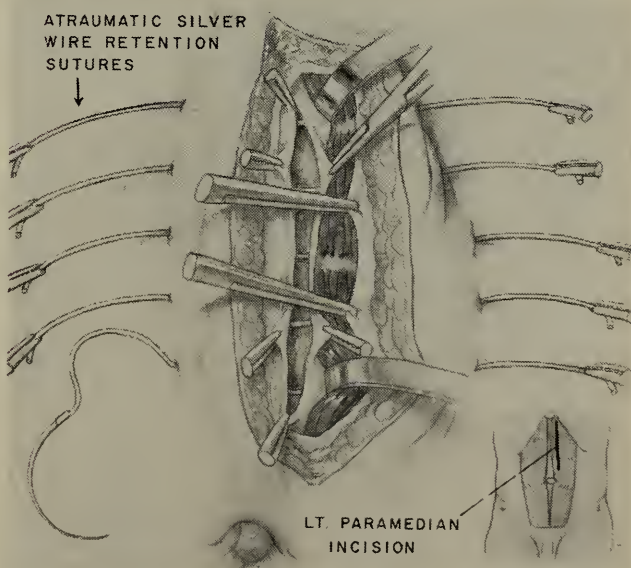


Fig. 7

adequate hemostasis, drainage is usually unnecessary.

Review of local hospital records demon-

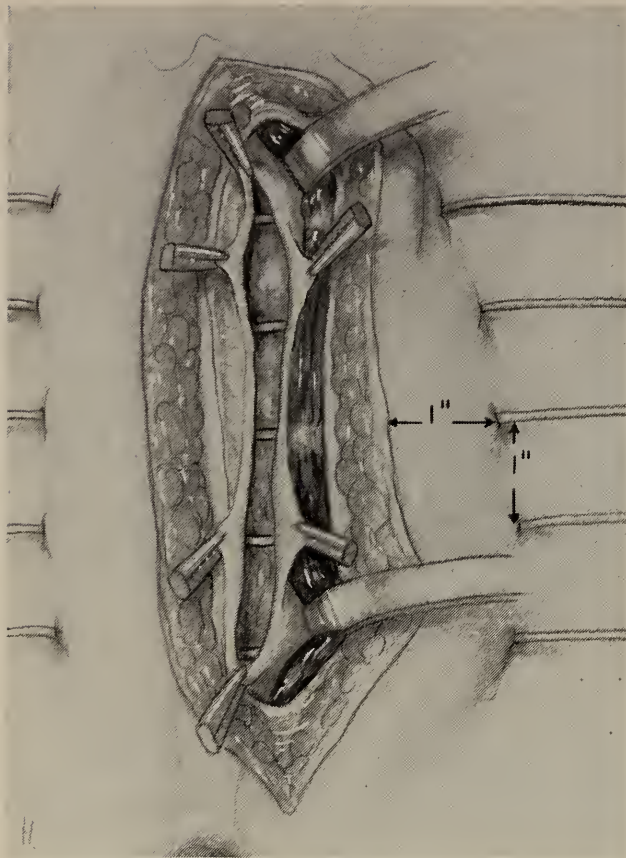


Fig. 8

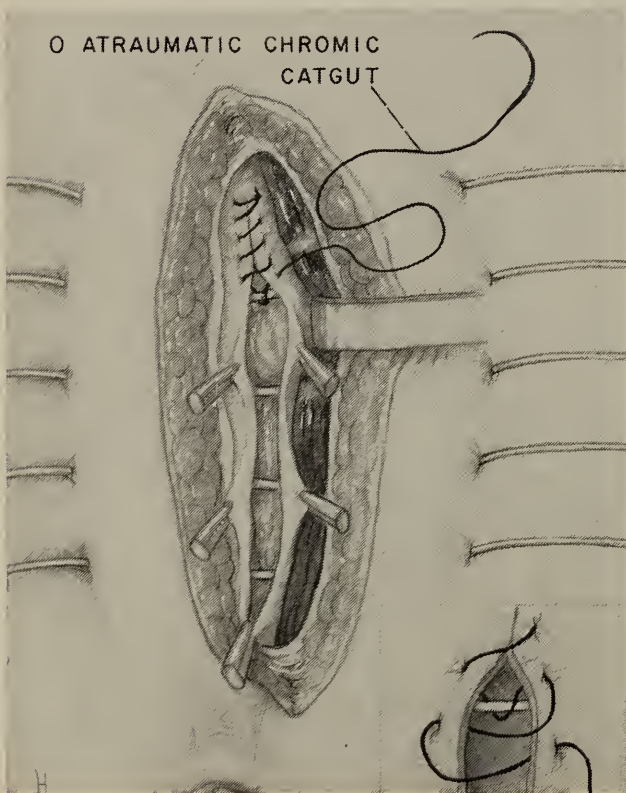


Fig. 9

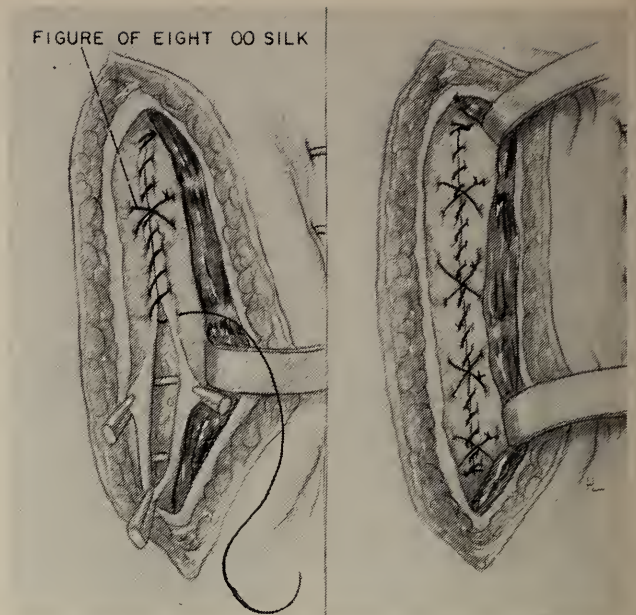


Fig. 10

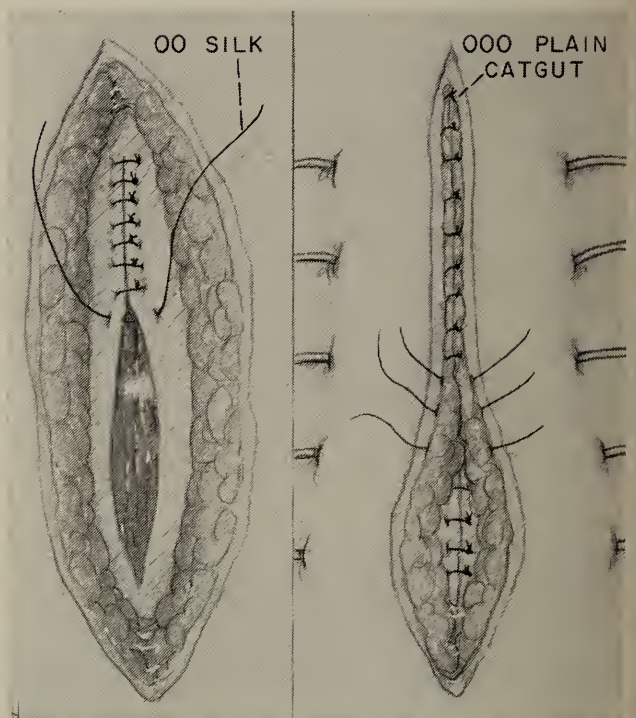


Fig. 11

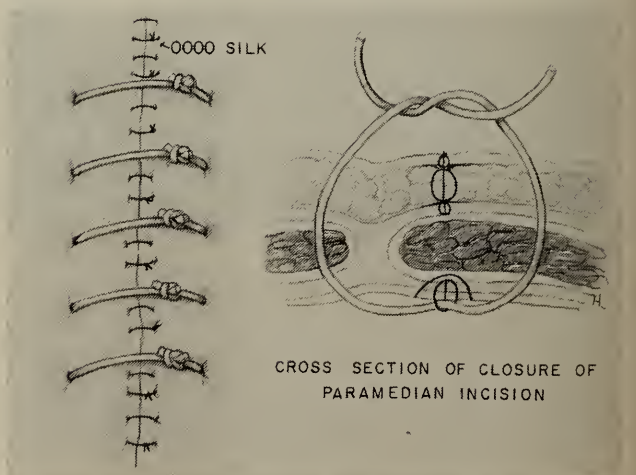
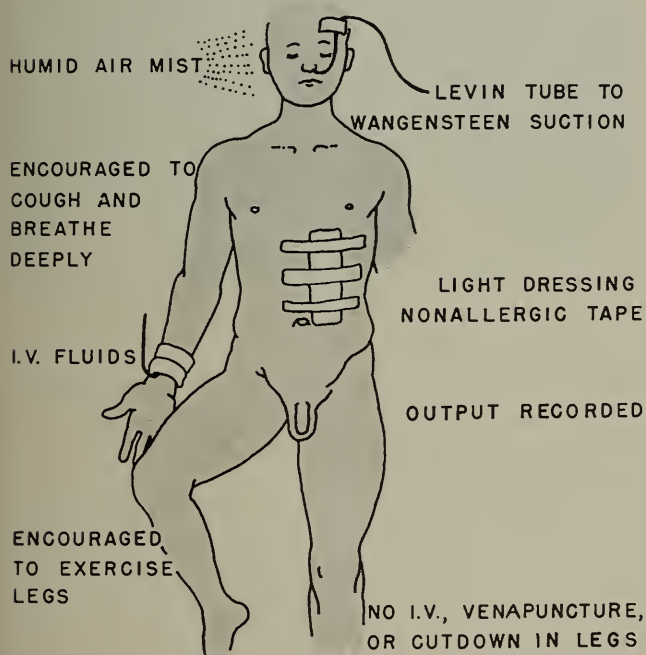


Fig. 12

strated a significant incidence of postsplenectomy wound problems and careful anatomic layer closure with retention sutures, as illustrated by Figures 7-12 has value.

Postoperative care of splenectomized patients has vital importance. Levin tube intubation with Wangenstein suction is of help. A humidifying air mist aids in maintaining a moist tracheo-bronchial tree and the patient is strongly encouraged to cough and breathe deeply to eliminate secretions. The dressing in the undrained case is usually small to facilitate adequate abdominal examination. Careful intake and output records are kept. No intravenous medications or fluids, venapunctures or cutdowns are allowed in the legs, since the incidence of superficial thrombophlebitis of the legs is higher than that of the upper extremity and less easily managed. Intravenous fluids are placed preferably on the forearm, rather than in the antecubital area to permit more mobility as the patient is encouraged to early ambulation.



"STIR UP" ROUTINE

Fig. 13

The necessity for splenectomy from trauma has demonstrated that its absence is not incompatible with normal life, although the spleen's recognized normal functions include destroying aged red cells, storing red cells and iron, and filtering infectious agents.

In spite of considerable study, the spleen still has an aura of mystery and the abnormal functions of the spleen are surrounded with some controversy. Doan attributes to an abnormal degree of phagocytic activity the excessive destruction of red blood cells, platelets, white cells or all three of these elements; whereas Damashek believes it probable that the spleen inhibits the bone marrow in release or formation of blood elements through hormonal regulation or auto-antibodies.

Changes in the blood following splenectomy include temporary leukocytosis, mild eosinophilia, mild thrombocytosis, mild erythrocytosis, and some change in thickness of the red cells. There is occasionally temporary generalized enlargement of lymph nodes and perhaps lowered resistance to infection.

Postoperative complications of splenectomy are those of any major abdominal surgery and include paralytic ileus, wound infection, and atelectasis. Those more directly associated with splenectomy include secondary hemorrhage, thrombosis, infection, left subphrenic abscess, and gastric fistula. These may be held to a minimum with meticulous surgical technique.

The authors' series of 12 splenectomies in 1963 include two for blood dyscrasia, three as incidental procedures, such as spleno-renal shunts, and seven of ruptured spleen. Of these, two were of ruptured spleen alone and five had associated injuries. The single postoperative death was that of a 30-year-old white male with multiple injuries, who was convalescing uneventfully after splenectomy except for electrocardiographic evidence of myocardial injury, and who died suddenly 36 hours postoperatively with autopsy evidence of a very large lethal cardiac contusion.

Brief case illustrations:

A 10-year-old white female presented with obvious acute abdomen following a fall from a horse with blunt trauma. Splenec-

tomy was done with rapid recovery typical of children.

A 54-year-old white female involved in an automobile accident presented with a spine injury and paraplegia from T-10 down. There were multiple fractures in the

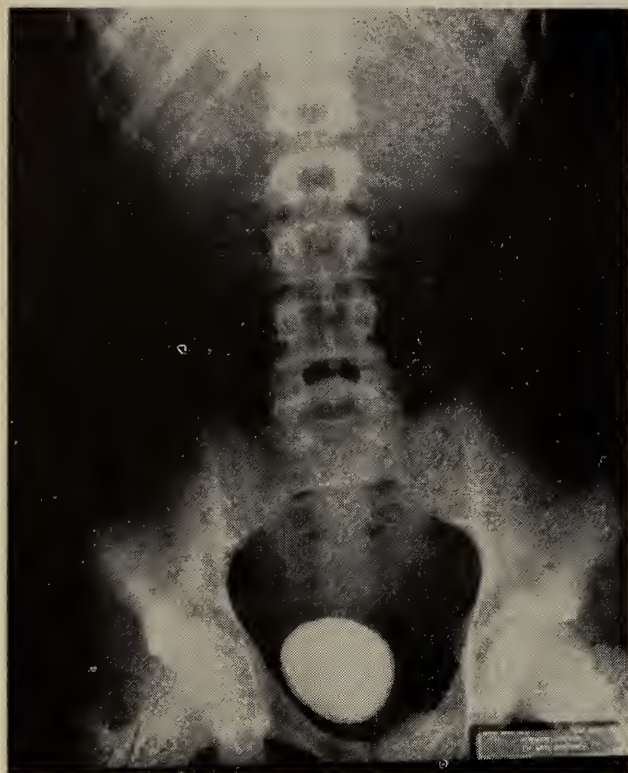


Fig. 14

left chest cage and a left hemothorax. The latter was treated with an intercostal tube, and after paracentesis showed a free flow of bloody fluid, a ruptured spleen was removed. The postoperative convalescence was uneventful except for the expected continuation of the paraplegia and a brief episode of easily medically controlled atrial fibrillation.

A 16-year-old white female was involved in a water skiing accident and presented primarily with hematuria and intravenous pyelogram (fig. 14) showed no visualization of the left kidney; cystoscopy and a retrograde pyelogram showed normal anatomy. A translumbar aortogram (fig. 15) demonstrated no filling of the left renal artery, although it is interesting to note that the splenic artery visualized well. At laparotomy, a ruptured spleen with thrombosed

left renal artery was demonstrated. A splenectomy was done, and after attempted reconstruction of the left renal artery proved impossible, a left nephrectomy was performed. The patient's postoperative course was uneventful.

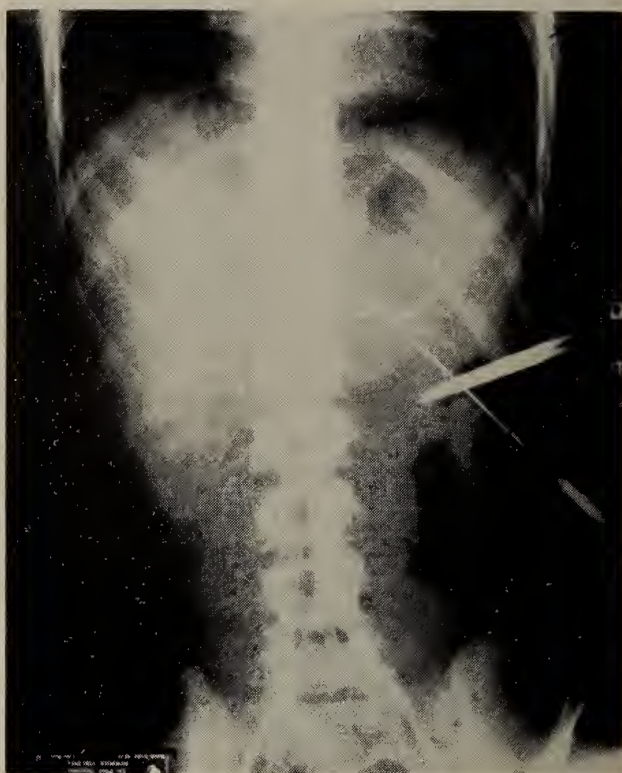


Fig. 15

Spontaneous rupture of the normal spleen has been infrequently reported, but spontaneous rupture of the abnormal spleen, such as with infectious mononucleosis is, of course, more frequent.

Orloff and Peskin in reviewing reported cases of rupture of the normal spleen found few which met their strict criteria of no trauma, no disease of spleen or its environs, and no gross or histologic abnormality of spleen except ruptured.

A 41-year-old white female, presenting with a subacute abdomen and severe anemia, was demonstrated by abdominal paracentesis to have a hemoperitoneum. Through a left paramedian incision spontaneous rupture of an atherosclerotic artery near the hilum was found. The artery was ligated and the spleen was removed with an uneventful postoperative course.

Restrospective review of the preoperative abdominal film (fig. 16) showed a small calcified area in the left upper abdomen corresponding to the site of rupture of the splenic artery which might possibly have been augmented as a preoperative finding by the use of a translumbar aortogram.

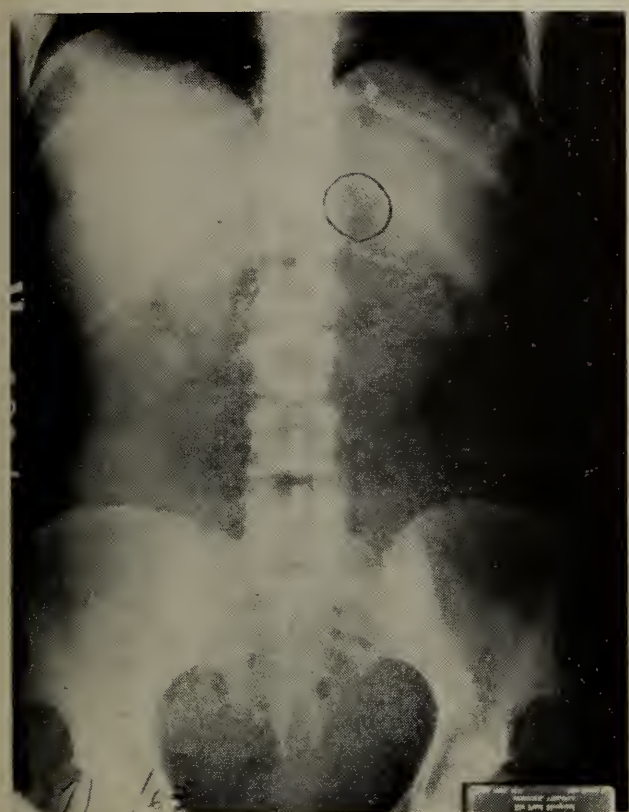


Fig. 16

Therefore, in summary, the physician should be alerted to the possibility of ruptured spleen in all trauma cases. Good diagnostic acumen is essential with particular emphasis on basic physical examination. Laboratory work, x-ray, and abdominal paracentesis are helpful. Early laparotomy with splenectomy is the treatment of choice. Good postoperative care is essential. No long term ill effects are noted.

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Leukemia Patterns Are Changing

Leukemia remains an invariably fatal disease, but improved medical treatment is attacking some of the causes of its victims' deaths. As a result, some of these persons are living longer. A report in the July 12th Journal of the American Medical Association noted "striking changes" during the past 10 years in the natural history of acute leukemia among patients at the National Cancer Institute, Bethesda, Md. The report also notes the increasing survival time of patients under age 20 who have acute lymphatic leukemia.

"In general, there has been a marked decline in the numbers of patients dying of hemorrhage and a sharp increase in the incidence of fatal infection." This takes note of the fact that some anti-tumor treatment breaks down the body's infection defenses. Thus, some kinds of infection rise as hemorrhages decline. Even though they eventually died, however, many leukemia victims' lives were prolonged because doctors were able to stave off one or another of the causes of death.

The report credited improvements in treatment, such as specific antileukemic agents, combination chemotherapy programs and blood platelet and granulocyte transfusions, for the change in leukemia patterns over the 10-year period.

Four physicians from the Acute Leuke-

mia Service of the National Cancer Institute surveyed the records of 444 leukemia victim who died there between 1954 and April 30, 1963. The authors are Evan M. Hersh, M.D., Gerald P. Bodey, M.D., Boyd A. Nies, M.D., and Emil J. Fredreich, M.D.

The study was undertaken to assess the effect of the new therapeutic measures on the course of acute leukemia.

"A striking finding of this study is the decline in fatal hemorrhage subsequent to platelet transfusion therapy."

All hemorrhage declined from 66.8% at the start of the 10-year period to 37.2% at the end.

Since patients regularly received platelet transfusions after 1960-61, "it is probable that the decline in hemorrhage is related to this added therapeutic measure."

The authors noted, however, that it is difficult to secure enough platelets for large adults. Platelet transfusions have less success during periods of hemorrhage and infection.

Chemotherapy and such supportive measures as platelet transfusion are responsible for the improved survival of patients under age 20, the authors said. An earlier study found that patients receiving antibiotic and transfusion therapy survived an average of 8.9 months, compared to 5.6 months for untreated patients.

Mucoid Impaction of the Bronchus

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An awareness of the characteristics of mucoid impaction of the bronchus will lead to its early recognition and treatment.

THIS CONDITION was first described by Shaw¹ in 1951 and it was he who coined the term Mucoid Impaction. This is not a new disease but one that is not well recognized. Shaw's¹ original report of ten cases in 1951 was followed by a review of thirty-six cases by Shaw, Paulson and Kee² in 1957. Greer³ reported eight cases in 1957. Isolated reports on series of cases have appeared in the British and Australian literature.

This condition occurs in asthmatics and patients who have obstructive bronchitis. These patients secrete a tenacious mucus which is difficult to expectorate and it accumulates in the bronchi and becomes inspissated. Mucous plugs are thus formed and these may become large and dense measuring from 1 to 3 cm. in length and 1 to 2.5 cm. in diameter.

Pathology

Shaw's² original description of the pathology has been confirmed by others. The mucous plugs are greenish-gray in appearance. They may appear in any bronchi, but typically in the second order branch distal to the bifurcation. They often occur in pairs. (Fig. 1.) The bronchi become dilated and the bronchial wall becomes infected. There is an infiltration into the wall by lymphocytes and eosinophilic polymorpha-

nuclear lymphocytes. The cartilaginous elements may be destroyed. The ciliated columnar epithelium is replaced by squamous epithelium. Suppuration may occur in the

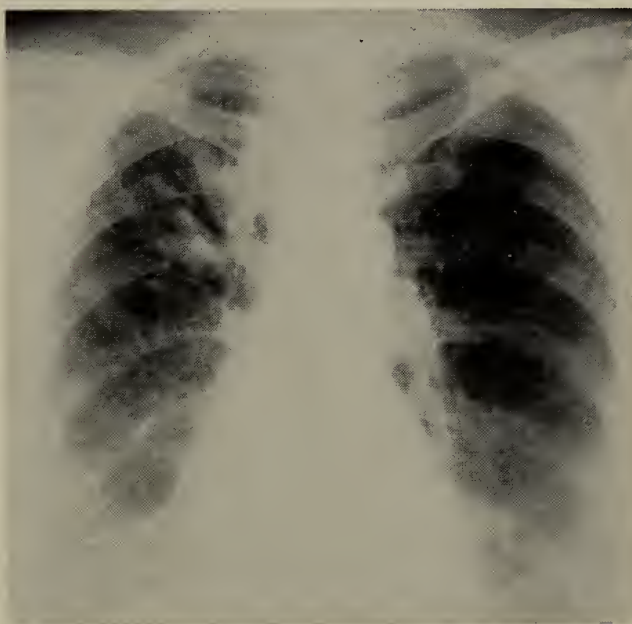


Fig. 1. Case 1—Shows typical V configuration due to adjacent occluded bronchi.

blocked bronchus. The alveolar spaces which remain intact are filled with an amorphous eosinophilic material which contains plasma cells, lymphocytes and eosinophils and occasionally giant cells. Fat may be in the epithelial cells of some of the bronchials and alveoli.

Schehan and Schonfeld⁵ recently reported a case of mucoid impaction in which chronic infection apparently led to metaplasia which on cytology of the sputum was falsely believed to be malignant.

Radiologic Appearance

The radiologic appearance is the most valuable measure in diagnosis and following the course of the disease. The appearance may be typically diagnostic, particularly after one has become familiar with the dis-

ease process. In others, however, it may be difficult to differentiate this from neoplasm or tuberculosis. The radiological appearance may vary. Two groups of opacities may occur: (a) Those due to mucoid impaction themselves (Case 2).

(b) Those resulting from bronchial obstruction (Case 1). The mucoid plugs are present as solid, round or oval densities. They may occur in any bronchus but are more frequent in the larger ones. Typically they occur in pairs and produce a V density. This finding is quite well demonstrated in Case 1, Fig. 1, and was also pointed out by Wilson.⁴

The changes due to bronchial obstruction are those of atelectasis and pneumonia. Bronchiectasis may occur distal to the obstruction. Bronchography may demonstrate blocked bronchi, mucoid plugs, and bronchiectasis. Bronchography may also demonstrate other partially occluded bronchi which are not apparent on routine radiograms. Pulmonary lesions may occur in the peripheral lung zones and present a sharply outlined, solitary mass and it is this type which may be indistinguishable from pulmonary neoplasm. The changes occur more frequently in the upper lobes or the superior segments of the lower lobes. Shaw et al.² speculate that the tussive force is more effective in expelling the thick, tenacious secretions from the bronchi of the lower lobes whereas the force of gravity which is so important in draining of the upper lobes is not great enough to move the thick, tenacious secretions from this portion of the lungs.

Clinical Features

Symptoms may be absent and the pulmonary abnormalities may be demonstrated only on routine radiograph of the chest. The possibility of mucoid impaction should always be kept in mind when patients with asthma or chronic bronchitis are being evaluated. Symptoms may vary widely, the patient may develop a respiratory infection with fever and cough which may be pro-

ductive. Pleuritic pain and possibly small amounts of hemoptysis may accompany the episode. The mucoid plug may be coughed up; if so recovery is usually rapid. Febrile illnesses may be intermittent and with no change in the radiographic appearance of these lesions. Clinical features may simulate that of tuberculosis and the radiographic changes may also be quite similar.

Case 1

This 65-year-old non-asthmatic white woman was admitted to the hospital on July 31, 1964, for diagnostic studies and treatment of consolidated areas in the right upper lobe and persistent cough and sputum and afternoon fever for the previous year. A clinical diagnosis of tuberculosis was made in this patient years ago. The previous year the patient was treated with INH without benefit. Densities in the right upper lobe had been noted for years, but increased in the period of time from 1958 through 1962. Bronchoscopy and bronchial washings were obtained and these were benign on this admission. There appeared to be some narrowing of the right upper lobe bronchus. Routine culture revealed a hemolytic *Staphylococcus aureus*, coagulase positives and in the post bronchoscopy period, this patient developed fever, cough and increase in coarse rhonchi on expiration. On Staphcillin, her temperature gradually subsided and physical signs disappeared. All of the skin tests including first and second tuberculin and those for fungus were negative. No evidence of acid fast organisms were found on direct smear or culture. Fresh preparation for fungus was negative. *Saccharomyces* were found on fungous culture.

Case 2

This 41-year-old white woman was admitted to the hospital on November 1, 1959, because of progressive right upper lung infiltration and what appeared to be enlargement of the right hilar lymph nodes. She was suspected of having either fungus

infection, tuberculosis, lymphoma or primary bronchogenic carcinoma. She was a known asthmatic. The lesion had been followed closely by x-ray without improvement. She had had a bronchoscopy, sputum studies, fungous studies and skin test for blastomycosis, coccidioidomycosis and histo-

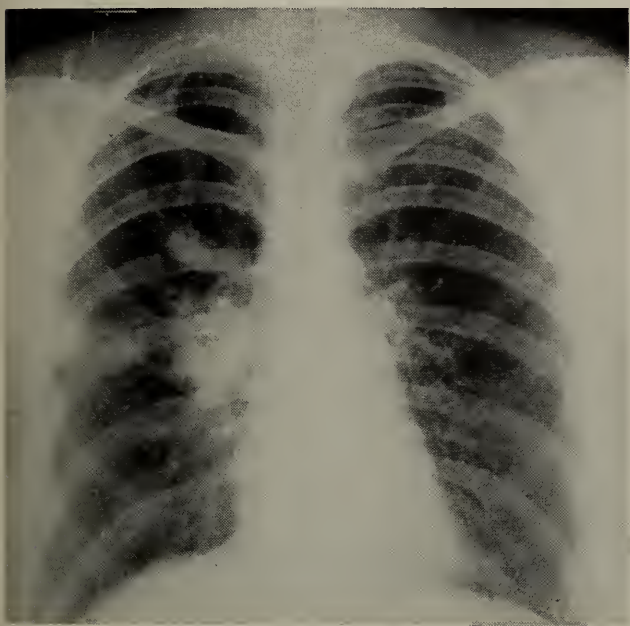


Fig. 2. Case 2—Showing multiple nodular densities due to mucoid plugs. Proven by pathological studies on resected specimen.

plasmosis all of which were negative. Second strength tuberculin was negative. A trial therapy of antibiotics resulted in no im-

provement. X-ray revealed the lesion to be primarily in the superior segment of the right upper lobe. A biopsy of supraclavicular fat pad was negative. On November 11, 1959, a thoracotomy was performed and mucous impaction of the superior segment of the lower lobe was found and removed. Her postoperative course was stormy. Following her recovery, her asthma was moderately improved.

Appreciation is expressed to Dr. Robert S. Hutcheson, Jr., for case number 1 and Dr. Alexander McCausland for case number 2.

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Annual Meeting

The Medical Society of Virginia

The John Marshall Hotel

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October 10-13, 1965

Suicides in Virginia

Suicide, the ninth leading cause of death in Virginia, has its highest incidence during life's most productive years. This deplorable situation is of concern to physicians and lay public alike.

IN VIRGINIA some 10 persons die from suicidal means every week. The State's toll of suicide rose to 541 in 1963. It was

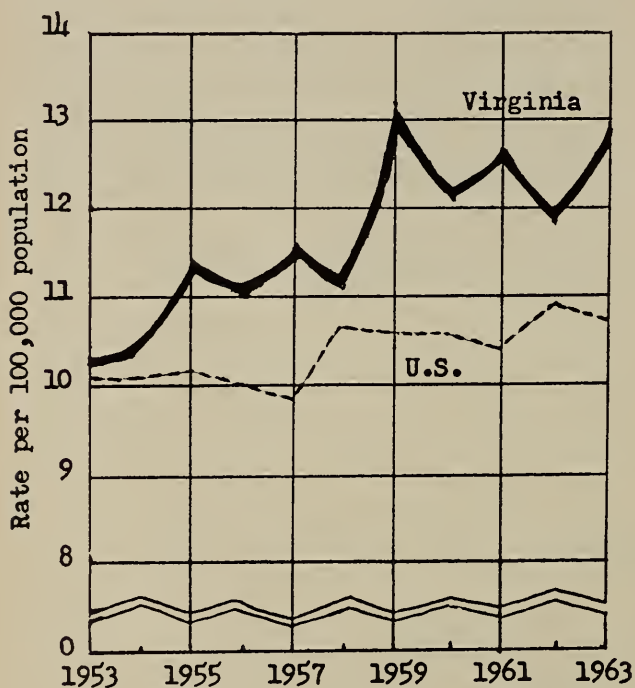


Fig. 1. Suicide rates of Virginia & United States 1953-1963.

493 in 1962. Since 1956 suicide has become included among Virginia's ten lead-

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ing causes of death. It occupied the tenth place in 1957 and 1958 and it has become the ninth leading cause of death since 1959. It is interesting to note that for the age group 45-64 years suicide is in fifth place, while for the age group 15-44 years it is even the fourth leading cause of death.¹

Virginia's suicide rate per 100,000 population is higher than the national rate and it continues to rise,² as shown in figure 1.

Nearly half a century ago the number of homicides in Virginia exceeded the number of suicides by a wide margin. During the 1920's and 1930's suicides rose faster than homicides until in 1939 their tolls were almost the same. In 1963 homicides numbered 281 and suicides 541. Incidentally Virginia nowadays belongs to the few states which have a high suicide as well as a high homicide rate.³

The suicide rates vary considerably within the United States. In 1959 it varied from 5.8 per 100,000 population in Mississippi to 26.0 in Nevada. The international picture is similar. Some countries have low suicide rates (Costa Rica 2.3 and Ireland 2.5 per 100,000 population), while others have high rates (Hungary 25.7, Austria 24.8, Japan 23.3 and Denmark 21.0 per 100,000 population).⁴

The material for this study is obtained mainly from the records of the Chief Medical Examiner's Office in Virginia. One thousand five hundred and forty suicidal deaths which occurred throughout Virginia in the three year period 1961-1963 are studied. As is well known Virginia has a coordinated state wide medical examiner system and suicidal deaths come within the jurisdiction of medical examiners. It is hoped that these statistical reports and observations will contribute to the understanding of suicidal deaths.

Age

It is known that the incidence of suicides is highest during the most productive years of life. The largest number of suicidal deaths in Virginia occurs between the 45-54 years of age, followed by the age groups 35-44 and 55-64, as shown in table 1. The number of suicides in children and adolescents averages 15 a year. As have been pointed earlier suicide is the fourth leading cause of death in the 15-44 years age group.

TABLE 1

NUMBER OF SUICIDES BY AGE GROUPS—
VIRGINIA, 1959-1963

AGE GROUP	1959	1960	1961	1962	1963	Total
10-14.....	2	1	2	2	1	8
15-19.....	9	16	11	13	17	66
20-24.....	28	32	28	22	28	138
25-34.....	72	74	57	67	81	351
35-44.....	110	96	105	104	122	537
45-54.....	122	110	132	111	134	609
55-64.....	95	89	93	102	89	468
65-74.....	56	42	57	52	46	253
Over 75.....	23	22	21	20	23	109

Figure 2 illustrates that the suicide rate per 100,000 population increases with age progressively, although some decline is noted after the age of 64 years.

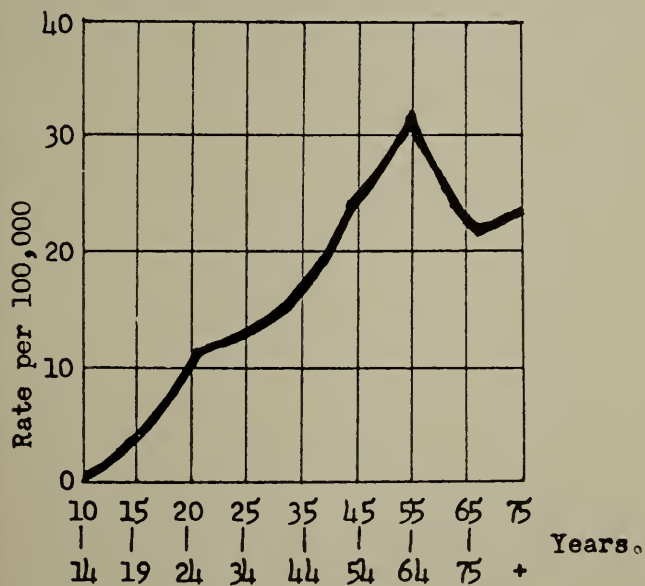


Fig. 2. Suicide rate by age
Virginia, 1960.

Sex

In Virginia suicide is the seventh leading cause of death among white males. The

number of suicides for males is nearly four times higher than that for females, as shown in table 2.

TABLE 2
NUMBER OF SUICIDES BY SEX—VIRGINIA, 1959-1963

YEAR	Males	Females	Ratio M/F
1959.....	420	97	4.3
1960.....	385	97	4.0
1961.....	399	107	3.7
1962.....	398	95	4.2
1963.....	423	118	3.6
5 Yrs.....	2,025	514	3.9

Based on the number of males and females in 1960,⁵ the suicide rate for males is also four times higher than that for females.

It is stated that the white males account for about three-fourths of all suicides in the United States. Many authors observe that among males the death rates from suicide increase steadily with age throughout life, while among females rates decline after the age group 50-54 years.^{3,6} It is also interesting to note that while men are overrepresented in completed suicides, women are overrepresented in attempted suicides.⁷

Race

It is generally reported that suicide rates among United States Negroes are considerably lower than those for whites.^{4,6} Table 3 supports this finding. The nonwhite suicidal victims in Virginia are almost exclusively Negroes.

TABLE 3
SUICIDE BY RACE—VIRGINIA, 1959-1963

YEAR	WHITE		NONWHITE	
	Number	Rate	Number	Rate
1959.....	464	15.0	53	6.5
1960.....	440	13.9	42	5.1
1961.....	474	14.8	32	3.8
1962.....	454	13.8	39	4.6
1963.....	494	14.6	47	5.4
5 Yrs.....	2,326	14.4	213	5.0

While the suicide rate for whites is nearly three times higher than that for Negroes, the average homicide rate for Negroes in

Virginia is six times higher than that for whites.¹

United States statistics show that non-white Americans other than Negroes generally have high suicide rates. In 1959 the rate among American Indians was 11.5 per 100,000 and 13.1 among the Chinese while it was surprisingly low (6.9 per 100,000) among the Japanese.⁸

Marital Status

Of the 1540 suicides in Virginia 68.9% were married or separated, 17.2% had never been married and 13.9% were widowed or divorced. Based on a 1960 census the estimated suicide rate per 100,000 in Virginia is 17.9 for the married people, as compared to 25.8 for the widowed or divorced individuals. This finding is in agreement with reports of other investigators.^{4,8}

Time

It has long been observed that the suicide toll is highest in spring and early summer,

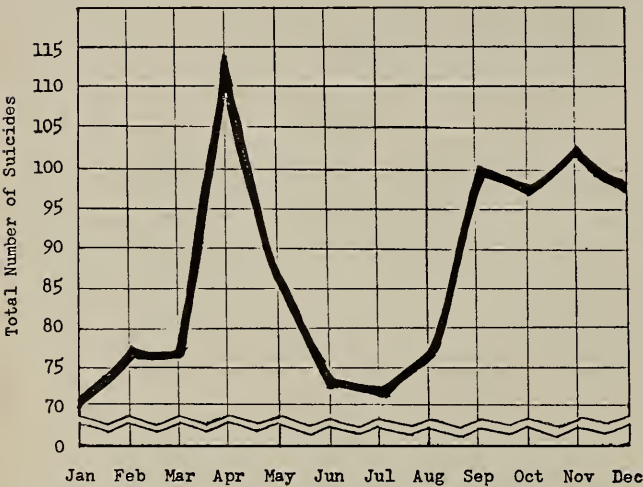


Fig. 3. Deaths from suicide by month Virginia, 1962 & 1963.

the most pleasant period of the year, while it is lowest during the cold and bleak December month. United States statistics^{4,8} support this finding and so do most of the European statistics.^{8,9} Figure 3 shows that for Virginia a sharp peak is seen in the spring, while the number is high throughout the last quarter of the year.

In 670 suicidal deaths the time of the suicide act was recorded with fair accuracy.

Nearly half of the suicides occurred between 8:00 a.m. and 4:00 p.m., while only 4.6% of the suicides took place between 12:00 p.m. and 4:00 a.m.

Communication of Suicidal Intent

9.7% of the 1540 suicides had attempted suicide at least once before the final act. 23.0% had threatened suicide or specifically stated they intended to take their lives. 5.0% were known to have communicated various other suicidal ideas. Suicide notes had been left in 17.5% of the series.

Psychiatric Care

15.7% of the group were known to have been under psychiatric care. It is noted that some persons committed suicide shortly after being discharged from the hospital or while on furlough.

Alcohol

The association between alcohol and suicides has long been studied. Of the 1540 persons who committed suicide in Virginia 9.2% were known to be chronic alcoholics. Postmortem blood alcohol was obtained in 422 persons; it is found to be over 0.05% in 41.9% of them. Table 4 further shows that at least one-fifth of the group had a blood alcohol level of over 0.15%.

TABLE 4
POSTMORTEM BLOOD ALCOHOL IN SUICIDES
—VIRGINIA, 1961-1963

ALCOHOL CONTENT	Number	Percent
Under 0.05%.....	245	58.1
0.05-0.09%.....	39	9.2
0.10-0.15%.....	52	12.3
Over 0.15%.....	86	20.4

These findings in Virginia indicate that alcohol is a significant factor in suicides. It disagrees with findings of Coe in Hennepin County, Minneapolis, who reported as insignificant role of alcohol.¹⁰

Physical Illness

Physical illness was considered to be a major contributory factor in 17.6% of the

series. The diseases most frequently involved were in order of diminishing importance: cardiovascular diseases, neoplasms, peptic ulcers, diseases of the lungs, cerebrovascular accidents, arthritis, failing sight and urogenital disorders.

Personal Relationships

Domestic, premarital or marital troubles played the major role in nearly one-fifth of the suicides. The bereavement of a loved one was considered to be a significant factor in 3.0% of the series.

Financial Difficulties and Unemployment

7.8% of the suicides were reported to have serious financial difficulties, while unemployment was considered to be a contributory factor in 5.5% of the group.

Legal Difficulties

Of the suicides 4.0% were noted to have legal difficulties at the time of their deaths. Some of them committed suicide in prison.

popular method was the various types of poisoning, followed by hanging. Together these three methods were used in 92.7% of all suicides. This pattern is not restricted to Virginia. During the period 1955-1959 United States statistics revealed that close to half of all suicides used firearms (47.1%), followed by poisoning (21.0%) and hanging (20.5%). It is however interesting to note that cities such as New York, Boston and Philadelphia differs strikingly in the methods of suicide. During the period 1925-1954 firearms were used in only 9.0% of all suicides in New York City.⁸ In Philadelphia firearms ranked second (21.0%) during the five-year period 1951-1955.¹¹

It is generally reported that women more commonly chose passive methods (poisoning), while men showed a preference for active methods. In Wales for example, passive methods account for nearly two-thirds of all suicides in females.¹² Table 5 reveals two interesting facts for Virginia. In the first place shooting was the method most frequently used among Virginian ladies, while in other places poisoning was most

TABLE 5
METHODS OF SUICIDE—VIRGINIA, 1959-1963

METHOD	MALES		FEMALES		TOTAL	
	Number	Percent	Number	Percent	Number	Percent
1. Firearms.....	1,406	69.5	227	44.2	1,633	64.4
2. Poisoning.....	280	13.9	171	33.3	451	17.7
3. Hanging.....	213	10.5	56	10.9	269	10.6
4. Drowning.....	44	2.2	27	5.3	71	2.9
5. Cutting.....	39	1.9	12	2.3	51	2.0
6. Jumping.....	24	1.2	9	1.7	33	1.3
7. Other.....	17	0.8	12	2.3	29	1.1

Others were about to appear before court, being charged with disorderly conducts, burglaries, forgeries, rape, driving under the influence of alcohol or public drunkenness and discrepancies in finances.

Methods of Suicide

Table 5 clearly indicates that by far the greatest percentage (64.4%) of the suicides in Virginia used firearms. The next most

commonly employed by women. In the second place the Virginian ladies were more "active" than other women, only one-third of them chose passive methods (poisoning).

The various methods of suicide will now be discussed briefly:

A. Firearms. In Virginia revolvers or pistols were used in 45% of the cases, shotguns in 35% and rifles in 20%. In the three-year period 1961-1963 multiple

gunshot entrance wounds were found in 25 well documented cases of suicide. In one case a man was even able to shoot himself seven times in the right temple with a 22 caliber revolver. In another case five shots were fired in the chest and in two other cases three shots were fired. The most popular location of the gunshot wounds is the right or left temple, followed by the chest and mouth.

Table 6 shows some differences in sex with respect to the location of the gunshot entrance wounds. In both sexes the right or

in the face is never chosen by a suicide in England.¹³ This is not the case in New York City¹⁴ and in Virginia. It should be noted however that firearm deaths are relatively uncommon in England: only 228 suicidal deaths due to shooting occurred in 1955.¹⁵ The number was even less in 1959.⁸ In Virginia it is not too uncommon to find a site of entrance behind the ear. During the three year period 1961-1963 there were 30 well documented suicidal deaths with gunshot entrance wounds behind the right or left ear. In four cases the sites were even as far

TABLE 6
LOCATION OF GUNSHOT ENTRANCE WOUNDS BY SEX—
VIRGINIA, 1961-1963

LOCATION	MALES		FEMALES		TOTAL	
	Number	Percent	Number	Percent	Number	Percent
Right or left temple.....	340	41.5	50	39.1	390	41.1
Chest (precordial).....	200	24.4	43	33.6	243	25.6
Mouth (Palate).....	102	12.4	4	3.1	106	11.2
Forehead.....	80	9.8	9	7.0	89	9.4
Neck.....	45	5.5	1	0.8	46	4.9
Abdomen.....	40	4.9	10	7.8	50	5.3
Other.....	13	1.5	11	8.6	24	2.5

left temporal region ranks first and the left side of the chest ranks second. In women however, the right temple as a site of election exceeds the left chest by only a slight margin. The abdomen is the third place of

back as the occiput. Other suicidal deaths revealed unusual locations such as the eye, the jaw, the right chest and the face.

In Virginia deaths due to Russian roulette are considered suicides. In the three year

TABLE 7
SUICIDES DUE TO POISONING BY SEX—
VIRGINIA, 1959-1963

METHOD	MALES		FEMALES		TOTAL	
	Number	Percent	Number	Percent	Number	Percent
Carbon monoxide.....	177	63.3	23	13.4	200	44.3
Barbiturates and other analgesic and soporific substances.....	59	21.0	110	64.3	169	37.5
Other poisoning.....	44	15.7	38	22.3	82	18.2

election in women, while in men it is in sixth place.

Simpson states that a gunshot entrance wound behind the ear alone is sufficient to justify the strongest presumption of foul play. He further states that an entry wound

period 1961-1963 one such death was reported involving a 20-year-old boy.

B. Poisoning. At the beginning of the century poisoning was by far the leading method, accounting for 42% of all sui-

cides in the United States. While the use of firearms has increased steadily from decade to decade, poisoning dropped to 31% in 1926-1930 and to 21% in 1955-1959.⁸ In Virginia poisoning accounted for only 17.7% of all suicidal deaths during the period 1959-1963. Table 7 illustrates a significant difference in sex with respect to the choice of poison. While nearly two-third of the men showed a preference for carbonmonoxide, nearly two-third of the women ingested barbiturates or other analgesic and soporific substances.

The suicidal deaths from carbon monoxide occurred exclusively by using an automobile. In the vast majority of cases the exhaust fumes are directed into the car by means of a garden hose or vacuum cleaner hose. About 30 different chemicals were used, including doriden, arsenics, salicylate, lye, strychnine, tranquilizers, insecticides, cyanide, bichloride of mercury, nicotine-sulfate, methylsalicylate, sodium fluoride and phosphor.

C. Hanging. It is interesting to note that 18.9% of the suicidal deaths due to hanging occurred in prison. The vast majority of these people were arrested or convicted for driving under the influence of alcohol or public drunkenness. It is also noted that many of them committed suicide shortly after being locked up.

D. Drowning, cutting and jumping from high places. Together these three methods accounted for only 6.2% of all suicides. The vast majority of suicidal deaths due to cutting and jumping occurred among whites. Three mental hospital patients were found drowned in their hospital ponds, while in three other cases the victims were found dead from drowning in their bath tubs. The majority of the fatal cutting wounds were found over the neck and wrists. The next most common site of election was the cubital fossa of the arm. In the only two cases of suicidal stabbing the wounds were

found in the chest. Jumping from high places was more common in cities.

E. Other methods. Among the miscellaneous methods used in the three year period 1961-1963 were: Suffocation with plastic bag (nine cases), crushing by train (three cases), jumping in front of an oncoming automobile (two cases), burning (three cases) and crashing an automobile (one case).

Homicide-Suicide

In this particular type of suicide a person kills another person before completing the suicidal act. It is interesting to note that despite the large body of literature on suicides, this serious problem has received little study. In Japan so-called parent-child suicides are quite common and is considered one of Japan's characteristic suicide types.¹⁶ The term parent-child suicide however is misleading since a homicide is involved: a parent takes the life of a child before committing suicide.

Combined homicide-suicide acts are not uncommon in Virginia. During the three year period 1961-1963, 54 persons killed or attempted to kill other persons before taking their own lives. In all but one case firearms were used. Of the 54 persons 13 were Negroes. This may seem insignificant, however it accounts for 11.0% of all suicides among Negroes. A marked difference in the sex of the individuals is also noted. Among the 54 persons only four (7.4%) were women. The age of the persons varies from 18 to 79 years with the majority (50%) occurring in the age group 35-54 years.

55.5% of the persons shot at their own wives or husbands, while 16.6% of them shot at their girl or boy friends before taking their own lives.

Suicide Pacts

A suicide pact is a mutual arrangement between two people who resolve to die at the same time. These double suicides by agreement are reported to be common in Japan.¹⁶

They are divided into love pact suicides by unmarried couples, man and wife suicides by agreement and homosexual suicide pacts. The total number of "double suicides" in England and Wales in the four years 1955-1958 was 65, of which 58 were due to suicide pacts in the proper sense.¹⁷ It is surprising that in Virginia no suicidal deaths due to suicide pacts were reported in the three year period 1961-1963.

Summary

One thousand five hundred and forty suicidal deaths which occurred throughout Virginia in the three year period 1961-1963 are studied. The incidence of suicide is found to be highest during the most productive years of life. Suicide is the fourth leading cause of death in the 15-44 years age group. The ratio of males to females is 4 : 1, while that of whites to Negroes is 3 : 1. The suicide toll is highest in spring time; however, the series gives no evidence that the toll is lowest in December.

About two-thirds of the suicides use firearms. Even among women shooting is the method most frequently used. This reflects the handiness with guns among Virginia ladies. Furthermore only one-third of the women choose passive methods (poisoning). It is pointed out that gunshot entrance wounds behind the ear or in the face are not too uncommon in suicides, while the presence of multiple gunshot-entrance wounds does not necessarily exclude suicidal death. It is evident that premarital and marital troubles play the major role in combined homicide-suicide acts.

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Djalan Darmahusada 47
Surabaya, Indonesia

Clinicopathological Conference

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March 13, 1965

DISCUSSANTS:

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Mohamed Kirdani, M.D.
Juan Martinez, M.D.
Kenneth Crispell, M.D.
Fred Westervelt, M.D.
Al Carr, M.D. (Medical Resident)
David E. Smith, M.D.

Fever, Aphasia and Coma in a Girl

CASE #53-46-68

Admitted: 11/1/64

Expired: 11/5/64

This seventeen year old school girl had been in apparent good health until one week prior to admission. At that time she noted the gradual onset of malaise, headache, nausea and vomiting. She was found to have a fever of 102° and was admitted to another hospital. Mental confusion was present, and a spinal fluid examination showed an opening pressure of 225, normal sugar and protein and no cells. Temperature rose to 105° , and after three days she developed difficulty in speech and swallowing. There was intermittent vomiting. She was started on Decloxylin, failed to improve, and was referred to the neurosurgery service here. There was no history of antecedent toxin exposure, flu-like illness, respiratory symptoms, needle injection or insect or animal bite elicited. She was thought to be allergic to sulfa. Her past medical history was unremarkable. Her father was believed to have been successfully treated for tuberculosis.

Physical Examination: A drowsy, aphasic girl who initially could perform purposeful

movements with all extremities and attempt to sit up and look around. Blood pressure 110/70, pulse 84, temperature 103° . There was no rash or lymphadenopathy. The lungs, heart and abdomen were unremarkable. There was no papilledema, although no retinal venous pulsations could be detected. Deep tendon reflexes were generally active, more so on the left. Superficial abdominal reflexes were absent. Both plantar responses were extensor, the right being more striking than the left. There was no gross evidence of sensory or cranial nerve deficit, although her aphasia limited the accuracy of this examination.

Laboratory Studies: Hematocrit 33% (Urinalysis was not reported), WBC 7,300. Electrolytes were normal. X-rays of the chest and carotid arteriogram will be shown. The latter was said to show a shift of the anterior cerebral artery 5 mm. to the right, and somewhat greater shift of the deep veins. An echo-encephalogram confirmed the presence of a minimal shift, and a repeat test was felt to show no shift. Lumbar puncture showed "slightly elevated pressure", sugar 52 mg.%, protein 89 mg.%, 294 rbc and 70 wbcs (68 PMN's and 2 lymphs).

Hospital Course: The patient's level of responsiveness gradually decreased after admission. She had a grand mal seizure, predominately affecting the extremities of the right side with eyes and head turning to the right. The left pupil enlarged and reacted poorly. Anticonvulsive therapy, tetracycline, and sulfadiazine were given. A tracheostomy was performed. Repeat cerebrospinal fluid showed 46 mg.% protein, 60

mg.% glucose, 3 wbc's (2 PMN's and 1 lymph) and 560 rbc's. An "unusual" erythematous rash appeared very transiently over the trunk, interpreted as a vasomotor phenomenon. Hypotension was partially controlled by vasopressors, but coma deepened. After 11/3/64 temperature was kept between 30° and 32° C with an ice mattress. Apnea was controlled by mechanical assistance with respiration, but hypotension became refractory, pupils dilated and fixed, and she expired on 11/5/64.

Clinical Discussion

Dr. William Jordan: This history includes the early development of mental confusion and difficulty with speech and swallowing, in addition to the nonspecific findings of headache and vomiting. All this does is to indicate the presence of central nervous system disease, which becomes more obvious later with the abnormalities on neurological examination and eventually a seizure. There is significant fever from the beginning. There does not seem to be much in the way of meningeal signs, since stiffness of the neck or Kernig's sign are not mentioned. The spinal fluid does not help in a positive fashion in that it is initially normal and later shows some elevation of protein, a relative slight leukocyte response, and some red cells. The location of whatever process is involving the brain appears to be the left hemisphere, perhaps primarily the temporal area in view of the aphasia. The prominent Babinski reflex on the right is consistent with that interpretation, although it was abnormal on both sides. We may get more help on localization from the arteriogram in a moment. We cannot really interpret the slight anemia—hematocrit of 33%—without more studies. The absence of a leukocytosis in the peripheral blood may turn out to be significant. The normal spinal fluid sugars are against an extensive bacterial process, although we ought to have simultaneous blood sugars to interpret them properly. This girl's hospital course con-

sisted of a steady increase in the intensity of the initial findings without any changes which have any bearing on the primary diagnosis. May we look at the X-rays?

Dr. Mohamed Kirdani: The chest film is normal. The plain films of the skull show possibly a calcified pineal gland, maybe with a shift to the right. We can tell this better on the arteriogram in a moment, but it is pertinent to add that there is no evidence of erosion of the petrous bones or sinus disease. The carotid arteriogram, although injected on the left, fills both sides and part of the basilar system. (Fig. 1) On the fron-



Fig. 1. AP view of the carotid arteriogram injected from the left side. There is a slight shift of midline vessels to the right and a diffuse distortion of the left middle cerebral artery, which is displaced away from the inner table on that side.

tal view there is better evidence of a slight shift of the anterior and posterior cerebral arteries to the right. In addition, there is some elevation of the sweep of the left middle cerebral artery, suggesting swelling in this area. On the lateral film *all* branches

fanning out from the Sylvian fissure are definitely stretched, and this is present above as well as below the Sylvian fissure. There is something increasing the volume of the left cerebral hemisphere, but there are no localized vascular changes which permit us to suggest a specific cause, such as tumor or aneurysm.

Dr. Jordan: Thank you. This patient was on the neurosurgical service, and Dr. Martinez is here. Juan, will you comment on the problem as it appeared to your group?

Dr. Juan Martinez: Our problem was to rule out a surgically curable cause of this girl's disease. So we did an arteriogram on the night of admission. Because the arteriogram showed only diffuse instead of a localized swelling in the left side, we felt secure that this was not a resectable process. So our treatment consisted of an attempt to reduce cerebral edema in the form of hypothermia, and the antibiotics because of the possibility of infection.

Dr. Kenneth Crispell: What about the fever? Did you think it was "central" in origin, that is, due to involvement of a part of the brain involved in temperature regulation?

Dr. Martinez: No. We did not give any localizing significance to the fever. You could have a temperature like this with rupture of a brain abscess into the ventricle. The major area of brain involvement here was in the left temporal lobe. We say this because of her aphasia and inability to follow commands in spite of being awake at first. This was followed by right-sided seizures, indicating involvement of the lower frontal lobe as well.

Dr. Jordan: Several weeks ago Dr. Donald Matson discussed here the problems of central nervous system hemangiomas and aneurysms. There is some similarity of this case to examples mentioned by him. However, the combination of initially clear spinal fluid and the arteriographic findings rule out that type of problem. Tumor would be

a real possibility. Glioblastomas accompanied by hemorrhage into the tumor may present as an apparently abrupt onset and deterioration resembling this case. The lack of cells in the cerebrospinal fluid is consistent, but not the normal protein. However, here there was a week of non-specific prodromal symptoms and fever, suggesting an infectious problem. This and the rapidity of the subsequent course make me exclude a tumor. Could this be a toxic encephalopathy? Lead, arsenic and thallium are known to be capable of producing a relatively acute picture of diffuse brain damage and edema. Some of the newer insecticides would have to be considered. Again, the progression to death in less than a week and the apparent localization to the left temporal and frontal lobes would be against this. There is another possibility, a disease which begins after a week of non-specific prodromal symptoms, frequently followed by progressive development of signs of brain damage in many areas, ending in coma and death. This is acute necrotizing leuko-encephalopathy, or it is sometimes called acute hemorrhagic leukoencephalitis. The etiology is unknown, although a similar process can be produced in laboratory animals on an immune basis. Post-mortem examination reveals massive de-myelination of white matter, and the presence of an intense vasculitis helps to differentiate this from other problems pathologically. Clinically, there are almost always more profound signs of pyramidal tract involvement, with paralyses and spasticity. The latter were not present here, and the spinal fluid would be against this disease. The spinal fluid in necrotizing leuko-encephalopathy contains from 2 to 2000 leukocytes.

This brings me to the category of main concern today. That is the infectious causes of an illness of this sort. Could this be tuberculous meningitis, or miliary tuberculosis? The rate of progression seems too fast. Could it be a subdural empyema? There are no signs of cranial trauma, or

ENT infection, and the lack of signs of bony involvement of the skull has been pointed out. A brain abscess, however, is harder to rule out. There are fever, signs of irritation without gross contamination in the spinal fluid, increased intra-cranial pressure, and a tendency to localization to a particular area of brain involvement. This is very consistent. The spinal fluid findings in brain abscess depend on its proximity to the meninges; there is some pleocytosis from irritation. The sugar is often normal and spinal fluid culture is sterile. However, we have the same objection to this as for subdural empyema. Brain abscess is a metastatic phenomenon, and here the ENT system, lungs and heart were normal. Also, the course seems fast for a brain abscess, too, doesn't it Juan?

Dr. Martinez: Yes, it was too fast for a brain abscess.

Dr. Jordan: This brings us to the encephalitis group. There are the post-infectious or para-infectious encephalitides. Here there has been no infection recognized for this to be post- or para- of, and the rash was unimpressive. There had been no vaccination recently, and the history specifically mentions the absence of animal or insect bites. The other kinds of encephalitis would be the so-called arbor-virus infections, and inclusion-body or herpes simplex encephalitis. Last year there were several major outbreaks of the arthropod-borne viruses, with 2,978 cases reported in this county by November 27, 1964. In Houston, it was St. Louis encephalitis virus; in the Texas panhandle and Oklahoma there was Western equine encephalitis virus. In New Jersey there were 120 cases and eight deaths due to the St. Louis virus. No cases were reported after October 28, but this patient was admitted here on November 1st, and our fall was warm enough so that mosquitoes could have still been around. The clinical picture of St. Louis encephalitis is fairly consistent in general features, although quite variable in severity of these features. In the severe

cases there is quite sudden headache, vomiting, and often seizures. There is a variable degree of meningeal irritation. Very quickly there is progression to coma, usually accompanied by signs of pyramidal tract and brain stem involvement, with aphasia, ataxia and paralyses. There may be a gradually evolving version of the same process, or there may be very mild and abortive cases. In the severe variety, which the present case would have to represent, there is an increase in the peripheral white blood count, and a significant increase in leukocytes in the spinal fluid is practically invariable. The spinal fluid protein is usually elevated to the 100 mg.% range, and sugar is normal. In this case the cerebrospinal fluid is not pathological enough.

Finally, there is inclusion-body encephalitis which is thought to be due to herpes simplex virus. The exact etiology is still unknown. The striking histologic feature of this disease is the presence of large, eosinophilic inclusions within the nuclei of neurons. When there is a large eosinophilic, amorphous mass, surrounded by a halo of remaining basophilic nuclear material, it may be referred to as the Type A inclusion of Cowdry. Other inclusions have been described. The relation to herpes virus is somewhat in doubt. Patients, some were physicians, who have died following infection with the Simian Herpes B virus have not shown these inclusions. However, animals inoculated with material from their brains did develop inclusions. Dr. Haymaker at the Armed Forces Institute of Pathology was able to isolate herpes simplex virus from seven of 37 cases of fatal inclusion-body encephalitis.¹ This patient was younger than his group, most of whom were over 20 years of age. The onset is acute or subacute with headache, fever, nausea, vomiting, fluctuating fever, and confusion, progressing to somnolence, stupor and coma. Aphasia may appear early and convulsions are common. There is clinical evidence of widespread involvement of gray and white matter in

the form of hemiparesis, Babinski responses and cranial nerve palsies. In this disease there is considerable brain swelling due to edema, causing an increase in cerebrospinal fluid pressure, and ventriculography has shown a shift of midline structures in the past, due to this process. Pressure cones have developed. There is relatively slight pleocytosis of the spinal fluid. The EEG shows high voltage, slow, 5-8/second waves said to be characteristic. All of these features fit

Dr. Martinez: It is worth emphasizing in support of Dr. Jordan that this was a diffuse process affecting the brain. It was most intense in the left temporal lobe, but there was evidence of frontal lobe involvement and the arteriogram very clearly pointed to diffuse rather than localized abnormalities.

Pathological Discussion

Dr. David E. Smith: The localization of



Fig. 2. Necrotic and hemorrhagic softening in the left temporal lobe. This is a typical localization for herpetic encephalitis.

the present case, including the absence of any clue from the epidemiologic background. My diagnosis here would be inclusion-body or herpes simplex encephalitis.

Dr. Fred Westervelt: This patient received sulfadiazine, and she was thought to be allergic to sulfa. Could such an allergic response cause this picture?

Dr. Jordan: I don't see how an allergic reaction to sulfa could do this. A similar neurologic picture has been reported in periarteritis nodosa, but not this fulminating. What were the student's diagnoses?

Dr. Al Carr (Medical Resident): All of the students felt that brain abscess was the most likely problem. Secondary possibilities were considered to be subdural empyema and possibly glioblastoma.

the primary seat of this patient's disease in the brain was immediately confirmed at autopsy. Examination of the abdominal and thoracic viscera revealed no pathologic changes other than a general congestion. In the cranial cavity there was a small amount of recently clotted blood in the subdural space adjacent to the falx on the right side, and another similar thin clot in the middle fossa, particularly on the right. The brain itself was swollen, there was a marked uncinate pressure groove on the left temporal lobe, and the left temporal lobe in its anterior and ventral portions was covered by a thin layer of subarachnoid hemorrhage. This lobe was also quite softened. A section through this area (Fig. 2) uncovered considerable softening and many petechiae, in-

volving both the grey and white matter in this area. Grossly, the damage was principally concentrated in the left temporal lobe, with only generalized changes of congestion and a few petechiae in other sites

pia arachnoid. This hemorrhage and its accompanying inflammation was probably the source of the subdural blood by way of actual destruction of the arachnoid in some areas. The landmarks of the cortex are



Fig. 3. A section of the left temporal cortex, with hemorrhagic and necrotizing inflammation involving the cortex, underlying white matter, and the leptomeninges. A rupture of the pia arachnoid probably led to a slight amount of subdural hemorrhage in this case.

in the cerebral cortex and left thalamus. There were no abscesses or tumors.

An histologic section through the left temporal lobe is remarkable for a devastat-

badly destroyed in many areas, and the cortex and underlying white matter are sometimes replaced by numerous macrophages. (Fig. 3)

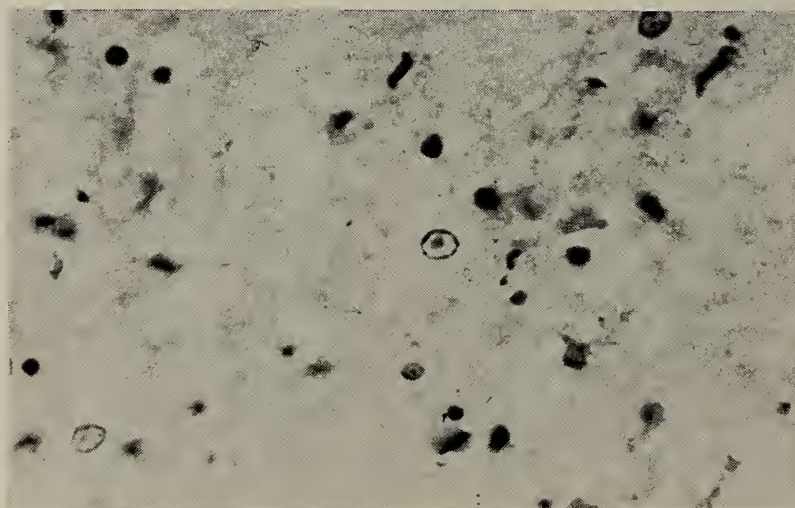


Fig. 4. A small intranuclear inclusion of the Type A configuration that is quite consistent with the effects of infection by herpes simplex.

ing, necrotizing, hemorrhagic inflammation. Neurones are shrunk and pyknotic, if not completely destroyed. Blood vessels in both the cortex and white matter are surrounded by cuffs of lymphocytes and even some granular leukocytes. There are foci of hemorrhage in both the brain and the overlying

Fairly frequently in small cells, apparently in oligodendroglial cells, especially at the periphery of the more extensive areas of destruction, there are intranuclear inclusions (Fig. 4). These consist of a round or ovoid eosinophilic body, about a quarter of the diameter of the nucleus itself and lying

in areas devoid of surrounding chromatin. In a few instances (Fig. 5), eosinophilic bodies completely fill small nuclei out to the thickened, somewhat irregular nuclear membrane.

The histologic evidence leads us directly to the conclusion that this is a necrotizing meningoencephalitis, with intranuclear inclusions, that is dramatic in both its extent and intensity. Having recognized this as an encephalitis, my native provincialism should probably have led me to choose the diagnosis of St. Louis encephalitis; however, the inclusions shown are exactly the features anticipated by Dr. Jordan.

the Type A² inclusions of this appearance and the inclusions which completely fill the nucleus is seen in only herpes simplex infection and the peculiar syndrome known as "inclusion encephalitis", or Dawson's encephalitis.³ This latter is a chronic syndrome and histologically is characterized by a great deal of astrocytic glial reaction, as well as an absence of the acute necrotizing features seen in the cases that have been proved to be of herpetic origin by isolation of the virus. Dr. Haymaker has been of the opinion that these chronic cases were also due to infection by herpes simplex; however, I am not aware that the virus has ever

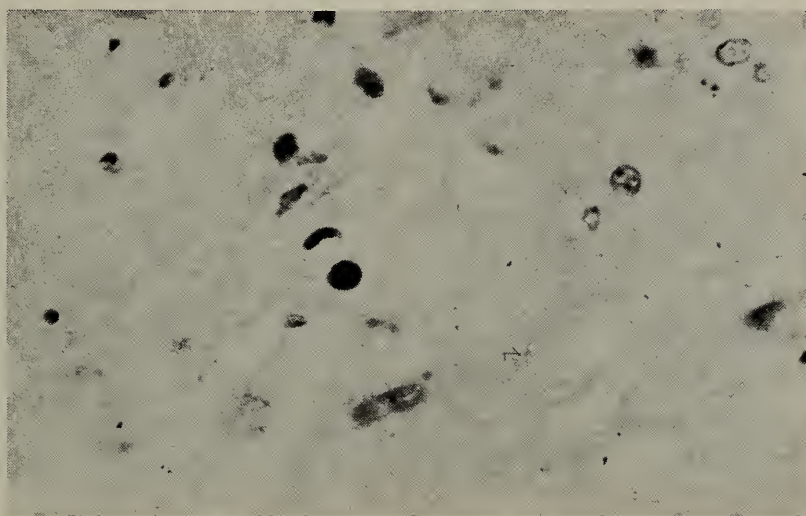


Fig. 5. An eosinophilic inclusion that completely fills the nucleus of a small round cell, probably an oligodendroglial cell, out to the irregular and slightly thickened nuclear membrane.

An attempt was made to isolate a viral agent from this brain by culture on human epithelial cells; however, it was not successful.

Nevertheless, I am quite confident that this patient was probably the unfortunate victim of an overwhelming infection by the herpes simplex virus. The localization in the temporal lobe, the necrotizing character of the histologic reaction, the types of inclusion bodies, and the clinical course are all quite characteristic of cases from which others have been successful in isolating the virus.¹

The inclusions themselves are typical of cellular changes that can be brought about by only a few viruses. The coexistence of

been successfully isolated from such a case.

It is almost typical of cases of herpetic encephalitis that there is no other clue to the presence of the virus. Cases of the primary encephalitis—in which the route of entry is quite likely by way of the olfactory tracts—usually show no evidence of the virus in other tissues. In some instances, particularly in infants, the encephalitis may be of a similar picture but only part of a general dissemination of the viral infection with lesions in other organs, such as the liver and the adrenals. No such visceral lesions were found in this case.

FINAL ANATOMICAL DIAGNOSIS: *Acute necrotizing encephalitis, probably due to herpes simplex.*

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Bathroom Safety

Don't slip up on bathroom safety, says Today's Health, the magazine of the American Medical Association.

Injury of at least two prominent Americans recently in bathroom falls reminded us once again of the potential hazards. Former President Harry S. Truman broke two ribs and sustained cuts on the face when he slipped and fell in the bathtub of his home. Astronaut John Glenn was incapacitated for months after he was injured from slipping on a scatter rug in his home bathroom.

Today's Health offers some pointers on bathroom safety—

Use suction-type bath mats or non-slip strips in tubs and shower stalls.

Install wall-mounted grab bars or hand rails near showers and tubs.

Use skid-proof mats on the bathroom floor. Avoid accident-dealing scatter rugs.

Fasten shower curtain rod securely. You likely will grab for the curtain if you slip.

Teach your children to turn on the cold water tap first, then adjust the hot water to proper temperature. This will help avoid scalds.

Electricity sometimes causes fatal bathroom shocks, because water is an excellent conductor. Never touch an electrical fixture with damp hands or while sitting or standing in water. Keep all electrical fixtures out of reach of the tub.

Keep a special container for discarded razor blades. Never drop them in the waste basket.

Use plastic glasses and containers in the bathroom as much as possible. Slivers of broken glass can slash bare feet.

Locks on doors can trap young children. Be sure your bathroom door can be opened from the outside in an emergency.

Plastic or safety glass in shower stall doors may prevent cuts should you slip and fall against the door.

Store medicines and chemicals safely beyond the reach of children.

Diagnostic Laboratory Medicine

Essential Pentosuria

Pentoses are sugars containing five carbon atoms and are widely distributed in plant and animal tissues, usually as components of larger molecules. In plants, more particularly in certain gums, pentoses occur as complex polysaccharides called pentosans, from which free pentose may be obtained on acid hydrolysis. In both plant and animal tissue the pentoses, ribose and deoxyribose, are universally found as constituents of the nucleoproteins of the cell, as well as of certain enzymes. They are readily manufactured in the body from glucose, in the direct oxidative pathway, and by decarboxylation of uronic acids. In the diet, they occur free in certain foods such as cherries, plums, grapes and prunes.

In the intestinal mucosa, pentoses are apparently not phosphorylated, and are absorbed by diffusion very slowly. Exogenous pentosuria sometimes follows the ingestion of pentose-containing foods and it is said to be fairly constant in habitual morphine users. Various drugs, for example barbiturates, aminopyrine and antipyrine, markedly increase the rate at which glucose enters the uronic acid pathway and hence produces pentosuria. Secondary pentosuria, as this condition is sometimes called, must be differentiated from essential pentosuria which is an inborn error of metabolism, and occurs almost exclusively in Jews.

Essential pentosuria has been found to have no relationship to sex and is genetically a recessive characteristic. The abnormality is probably present from birth. Individuals with this condition are often diagnosed as having diabetes mellitus due to the presence of reducing substances in their urine, and are treated with diet and insulin. Often after an episode of insulin-induced hypoglycemia, the correct diagnosis is made. Clinical and laboratory manifestations of diabetes mellitus are lacking. Many affected

individuals have been followed for years without exhibiting associated abnormalities or dysfunction. Some authors, however, have suggested an increase in incidence and severity of psychologic disturbances in these individuals. It is apparent, now, that essential pentosuria is a result of a defect in the glucuronic acid oxidation pathway. In normal glucuronic acid metabolism, the pentose L-xylulose is formed from Keto gulonic acid. L-xylulose is converted to the D-isomer which is then further metabolized in the direct oxidative pathway. The block appears to be in the conversion to natural D-xylulose of the L-form which therefore appears in the urine to the extent of 1-4 gm/24 hours.

In a given individual the amount excreted is relatively constant and is increased following the ingestion of D-glucurono Lactone. The urine of these individuals shows about 1+ positive reactions with Benedict's reagent at 55°C in 10 minutes or at room temperature in three hours. Fructose also reduces Benedict's reagent at this low temperature (55°C). The urine, however, does not give a positive reaction with Testtape (an enzyme impregnated paper, which reacts specifically with glucose and L-deoxy glucose). The use of paper chromatography enables one to readily distinguish L-xylulose from other sugars.

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Progress Report on PKU

The Demonstration Project in Phenylketonuria, undertaken by the Virginia Department of Mental Hygiene and Hospitals since 1962, has recently reported on its progress to the National Institute of Mental Health, which provides technical and financial assistance. The following is based in part on this report.

This five-year State-wide program for the detection and control of phenylketonuria is being demonstrated in cases identified through the screening of mentally retarded groups.

Phenylketonuria (PKU), an inborn error in phenylalanine metabolism, causes moderate to severe mental retardation. Other clinical features include EEG abnormality in about 80% of cases; patchy type of eczema in about 25% and convulsions in about 25%. Generally these patients are blue eyed and have blond coloring or a lighter coloring than the parents, and a musty odor of urine and sweat. Physical growth and life expectancy are essentially normal. Brain damage is probably due to abnormal products of phenylalanine which is toxic to the brain, although the direct relationship of mental retardation and metabolic error in PKU is not clear.

These children are normal at birth and during early infancy. Failure to progress as expected is noted only after three to five months of age.

Although phenylketonuria has been known as a medical entity for almost thirty

years, treatment aimed at preventing mental retardation from the disease is relatively recent. The fact that a low phenylalanine diet, started early enough, prevents or minimizes brain damage is now well established. Since it is important to detect every case with this condition at any age in order to reveal families carrying the recessive gene, the Project proposed to screen mentally retarded populations in the state institutions, schools, and clinics. This effort supplements other programs of PKU screening of newborns, normal and well baby populations through hospitals, local maternal and child health clinics of the Virginia Department of Health, and the screening done by physicians in private practice.

During the preparatory phase of the Project's program, all State authorities in the fields of health, education, and welfare were approached regarding their cooperation in the program, following which information was sent to local units. This has greatly facilitated our follow-up work with families.

Likewise, in an effort to acquaint the practicing physicians in Virginia with the Project's objectives, enlist their interest and participation, letters of information were sent to some 4,000 physicians in the State. Several hundred responded with favorable comments, offering support or raising questions regarding choice of PKU tests, reagents, testing methods, incidence, and dietary therapy.

Subsequently, medical exhibits were presented by invitation at annual meetings of The Medical Society of Virginia and the Virginia Academy of General Practice. One of the exhibits features the Project's overall program; the second, the preventive aspects of carrier testing and genetic counsel-

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Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

ing in phenylketonuria. These were shown at three national conferences also.

Presentation of these exhibits, as well as correspondence with physicians, has afforded opportunity for some sharing of experiences and consideration of such questions as—value of PKU screening in urology practice, ENT practice, seizure clinics, etc.; “family” approach vs. mass approach in case findings; age at which dietary therapy is terminated; selection of a teen-age PKU patient for treatment; high incidence of PKU in a given family (examples: four out of five children; three out of 12 children), incidence of PKU in dark skinned races; usefulness of ferric chloride screening in detecting aspirin intake; and clarification of information about PKU tests for adults.

Base line education being an important program element of the Project, staff have participated in local, state, and national meetings of professional groups of physicians, dietitians, social workers, nurses and laboratory technicians.

The Project initiated its case finding program with the screening of all patients at the Lynchburg Training School and Hospital. This institution is one of the two State-wide training and treatment centers for mentally retarded children and adults in Virginia.

The screening of approximately 3,000 mentally retarded Lynchburg Training School and Hospital patients revealed 38 PKU cases (16 previously diagnosed; seven of the 16 diagnosed prior to admission). This group of 38 cases includes three sibling pairs and a sibling trio; age range is five to 65 years; period of hospitalization ranges from two to 47 years.

Studies have consistently shown that PKU is found on the average of one-half to one per cent of institutionalized mental defectives.

The screening of 292 Negro patients at the Petersburg Training School revealed no PKU cases. This training center for mentally retarded children and young adoles-

cents serves students ages eight to 18 with I.Q.'s of 50 to 75.

Earlier reports have suggested that the incidence of PKU among Negroes is very low. According to Katz et al., only five Negroes with PKU have been reported in the United States.

Glass and Li have calculated the accumulated amount of Caucasian admixture in the North American Negro as 30 per cent. If all genes determining phenylketonuria are derived from Caucasians, the disorder should be at least one-ninth as frequent in the Negro as in the Caucasian. One would suspect, then, that the reason for the rarity of the condition in the Negro is its low gene frequency. Estimating the incidence of phenylketonuria in the general population as one per 10,000, the incidence in the Negro population should be about one per 100,000.

This suggests that the reported low incidence of PKU in the Negro race may be due to insufficient screening.

Screening of approximately 3,000 patients at Central State Hospital, Petersburg, has revealed no PKU cases. This hospital for mentally ill and severely retarded children and adults of Virginia accommodates 4,700 patients. This work is still in process.

Screening of some 2,000 patients at Eastern State Hospital has revealed one PKU case—a 46 year old female, who has been hospitalized since 1951 with a diagnosis of mental deficiency without psychosis.

Eastern State Hospital, Williamsburg, is a hospital for mentally ill children and adults, with an average daily patient population of approximately 2,300 patients.

The psychotic behavior in some of these patients (PKU) suggests that phenylketonurics might be present among the mentally ill populations. Levy and Perry found two instances of phenylketonuria among 1,850 mentally ill patients (0.1%). Both were described as “propfschizophrenics” (mental retardates with an engrafted schizophrenia process). A recent investigation of 4,246

adult psychotics revealed no phenylketonurics.

Two urine tests were employed in the above screening program. One, the test tube and the other, the diaper test. Five drops of 10% ferric chloride is dropped into 1cc of urine or on the diaper. The color reaction of ferric chloride with phenylpyruvic acid is an immediate blue-green to gray-green color which fades in a matter of seconds or minutes. Other color reactions noted in the tests were purple, dark brown, and extremely cloudy. According to the reports on the findings elsewhere, these color reactions are most likely due to ingested salicylates, thiorazine, and compazine. The fading of the color response back to a neutral or negative urine color is most useful in differentiating the true phenylpyruvic acid reaction from most so-called false-positive reactions; a similar reaction may occur with maple syrup urine disease and with histidinuria. The purplish reaction from ingested salicylates does not fade away for days.

All positive urine tests are followed by a blood test for phenylalanine for confirmation of the diagnosis. The Lynchburg Training School and Hospital laboratory is equipped to do blood phenylalanine determination tests using the enzymatic spectrophotometric method of LaDu and Michael.

The serum phenylalanine level is normally 1 to 3 mg/100 ml. but may be from 20 to 60 mg/100 ml. in a person with PKU. This high concentration apparently acts as a toxin or inhibitor of other enzyme systems resulting in mental retardation.

The data of our experience with the LaDu and Michael method of the determination of phenylalanine blood level shows that the normal range varies from less than 0.5 mg. to 5.0 mg. per 100 ml. serum. Any result above 10 mg. indicates the presence of phenylketonuria.

The range of serum phenylalanine concentrations of 39 patients examined was 19.99 to 57.1 mg.%. The mean value was 32.98 mg.% (See Table 1)

TABLE 1
RESULTS OF SCREENING TESTS ON
PHENYLKETONURIC PATIENTS

Patient	Sex	Age	Urine Test Ferric Chloride	Serum Phenylalanine (mg%)
LTSH				
E.M.	M	16	Positive	28.4
D.H.	M	21	Positive	29.
R.G.	M	46	Positive	21.7
M.G.	F	61	Positive	19.99
W.T.	M	67	Positive	38.4
G.R.	F	27	Positive	25.8
W.D.	M	17	Positive	29.7
E.O.	M	54	Positive	36.4
M.C.	F	31	Positive	32.6
D.F.	F	23	Positive	56.2
D.B.	F	16	Positive	41.6
A.R.	F	32	Positive	46.4
M.R.	F	35	Positive	38.9
D.E.	M	15	Positive	28.4
E.B.	M	33	Positive	30.
D.C.	M	17	Positive	30.
C.M.	M	53	Positive	28.5
J.A.	F	28	Positive	31.94
C.W.	M	17	Positive	33.9
D.W.	M	11	Positive	41.58
N.W.	F	16	Positive	34.8
D.W.	M	12	Positive	40.6
E.W.	F	14	Positive	55.1
A.S.	F	13	Positive	42.9
J.S.	M	9	Positive	33.2
C.A.	F	12	Positive	57.1
J.H.	F	30	Positive	36.7
B.H.	M	13	Positive	36.4
R.A.	F	7	Positive	29.4
J.W.	F	9	Positive
P.S.	F	12	Positive	44.5
M.J.	F	13	Positive	38.4
J.H.	M	9	Positive	22.6
K.D.	F	7	Positive	31.2
H.B.	M	17	Positive	26.1
P.M.	F	23	Positive	30.
S.W.	M	26	Positive	26.7
E.L.	M	23	Positive	24.79
Eastern State Hospital				
D.D.	F	46	Positive	37.72

In cooperation with the Virginia Board of Education, a pilot program of screening special education classes for phenylketonuria in public schools is now under way. The following school districts have volunteered to participate in this plan: Lynchburg City, Martinsville, Norfolk City, Richmond City, Lee County, Arlington County, Shenandoah County. Special groups of retarded children and adults sponsored by local chapters of the Virginia Association for Retarded Children will be included in some of these localities.

Approximately 2,000 to 3,000 children from these areas will be included in the

screening tests. (Test tube test with ferric chloride and Phenistix.)

In some instances, these will include special classes for the emotionally disturbed, cerebral palsy, as well as the educable and trainable retarded groups; also, pre-school and homebound groups.

Because of the sometimes associated findings of severe behavior disturbances, convulsions, cerebral palsy, and eczema in PKU patients, it has been considered advisable to screen children presenting such problems, including those with or without mental retardation.

A few cases of normal or near normal intelligence have been described, but it is believed these are atypical and represent a very small per cent.

As the screening program disclosed cases of PKU in the institution, the family and their physicians were advised with planning directed toward counseling with the family about the hereditary nature of PKU, including the purpose and importance of PKU and/or carrier tests as appropriate. There have been over 200 contacts (interviews and letters) with the families and relatives of this group of 39 PKU patients.

PKU, a genetic disorder, is transmitted by a single autosomal gene. The recessive trait is carried by about one in 50 to 70 persons in the general population.

If two carriers marry, there is one chance in four that any future children will have PKU. Also, there are two chances in four that each child may be a carrier of the defective gene.

If it is determined that a young person is a carrier, when he or she is married the husband or wife should be tested. If the marriage partner is a carrier also, then the parents must have each child followed carefully after birth until it is determined whether or not the child has PKU.

Some authorities recommend that in infants suspected because of positive family history, serum phenylalanine levels should be determined within the first month.

Aunts and uncles of children with PKU have one in two chances of being carriers; cousins, one in four. The incidence of PKU among cousins is about 20 times higher than in the general population. Ten per cent frequency of consanguineous marriages have been found among parents of PKU persons. Therefore, in marriages between relatives of PKU individuals, carrier testing is of prime importance.

A number of methods have been reported for the detection of individuals heterozygous for PKU. The Lynchburg Training School and Hospital laboratory is equipped to do carrier testing for PKU according to modified method described by Anderson et al.

This carrier test measures the activity of phenylalanine hydroxylase. Following a determination of tyrosine level, the person is given L-phenylalanine in the amount of .1 gm/kg of body weight orally, and two hours later the level of tyrosine in the blood is tested. This test is given following a twelve hour fast.

Values of serum tyrosine lower than 3.03 mg/100 ml. serum indicate a heterozygote (a carrier). Values above 2.53 mg/100 ml. serum indicate a homozygote (genotypically normal in reference to phenylketonuria). Five per cent of cases fall in the overlapping area; in such instances, the test should be repeated.

As a service of the Project, these tests and laboratory work are available without cost to families of PKU patients known to the Project.

Other cases referred by physicians in the community are eligible for this service, provided the person is willing that the data regarding the test results be included in the study.

As a matter of policy adopted by this Project, carrier testing is not done in cases of (1) pregnant women, (2) nursing mothers, and (3) children under ten years of age.

Of the 60 family members and relatives

tested to date, 27 are carriers and four are phenylketonuric. Seven of the twenty-five carriers are parents of PKU patients who were asked to take the test initially for the purpose of verifying our testing method.

If it was not feasible for the family members to come to the Lynchburg Training School and Hospital laboratory for the test, arrangements were made for the Project technician to do the test (draw blood) in the family's home community; either at the local health department, physician's office, or at the home, depending upon the family's wishes in the matter and other factors. Contacts with other relatives and physicians have been made only with the knowledge and consent of the patient's immediate family. A number of relatives have initiated contact with their physicians regarding advisability and arrangements for the tests.

A dietary therapy program for a group of twenty-one severely retarded hospital (Lynchburg Training School and Hospital) patients was begun on March 23, 1964. Although such treatment cannot correct brain damage which has occurred, there is some evidence to indicate that it may be of value in controlling other side effects, such as skin disorders and seizures. Further evaluation of these findings was the purpose of this special study. Seven of the twenty-one patients selected had received dietary therapy prior to admission; history of seizures and skin disorders was minimum. Age range for this group is from six to sixty-one years. Lofenalac is prescribed with certain other foods, consisting mostly of fruits and vegetables low in phenylalanine (2800 calories per day). Three patients who developed complications (severe seizures and diarrhea) were removed from the program. Periodic examinations including blood phenylalanine determinations, electroencephalograms, chemical urinalysis, and skin tests were done to evaluate significant changes and to determine the effectiveness of the low-phenylalanine diet. These findings will be reported at a later date.

Families were informed that this treatment was being undertaken on a trial basis and that improvement was unlikely.

A second study undertaken deals with problems of carbohydrate metabolism in PKU patients. In our follow-up work with families of PKU patients known to the Project, it has been discovered that there is a high incidence of diabetes among relatives. The significance of this factor is being examined by means of a study of the metabolism of glucose among this group of patients.

Data regarding maternal age and birth order of siblings in 56 PKU cases has been studied. Our findings reveal no significance of these factors in relation to phenylketonuria. In addition to 28 Lynchburg Training School and Hospital cases known to the Project, this study has included data on 28 cases known to the Virginia Health Department.

PKU is the first metabolic disorder shown to be associated with mental retardation. Research in this field is important in providing leads for understanding mental retardation due to other inborn errors of metabolism such as "galactosemia", Maple Sugar disease and others, also in establishing patterns for methods of detection and control.

The project office with staff and laboratory facilities is located at the Lynchburg Training School and Hospital, Colony. Dr. Benedict Nagler, Superintendent of this institution directs the Project. He serves without compensation from the Project as do two other hospital staff members, Dr. Michael Rostafinski, Director of Research and Training, and Mrs. Lien Yun Chen, Dietitian. Other members of the Project staff are Miss Juanita Wood, ACSW, Associate Director; Mr. Lee G. Scripture, BS, Laboratory Technician, and Mrs. Hallie C. Whitten, Secretary. Dr. Carolyn A. Chandler, Consultant in Community Mental Health, Community Branch, National Institute of Mental Health, Bethesda, Maryland, serves as Project Officer.

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Itching May Be Sign of Cancer

A persistent itching may be a sign of un-detected cancer. Pruritus, or itching, is an uncommon but important symptom of cancer, says an article in the July Archives of Dermatology, published by the American Medical Association. Such itching usually is localized on the legs, trunk, or upper body extremities. The only effective treatment is removal or arrest of the underlying can-cer, writes Frank E. Cormia, M.D., of the Division of Dermatology of New York Hospital and Cornell University Medical College, New York City.

Dr. Cormia reports finding itching re-lated to cancer in patients between 47 and 74 years old. "In patients with a history of arrested or 'cured' cancer, it (pruritus) is highly suspicious of reactivation of the pre-vious malignancy." The incidence, how-ever, is probably small.

Many things can cause persistent itching. These include reactions to drugs, other dis-

eases, such as kidney disorders or diabetes, and emotional disorders. "It is a grievous mistake, however, to ascribe a severe un-remitting pruritus to an ill-defined neurosis or to nervous tension." "It may be due to an underlying systemic cancer."

Malignancy location varied widely in pa-tients who reported itching. His patients had cancers in such diverse organs as the nasopharynx, breast, uterus, stomach, colon, and prostate gland. The intensity and extent of the itching could not be correlated with the estimated amount of tumor involve-ment.

"The presence of itching for months and years before the discovery of the underlying carcinoma suggests that some cancers may remain small and localized for long periods of time." "It is possible that such patients have a considerable amount of host resist-ance (to cancer)."

Public Health . . .

Institute on Advances in the Health Sciences

In an effort to present new and clarifying information derived from recent and on-going research in the health sciences, an Institute on "Advances in the Health Sciences Relating to Children and Youth" was held at the University of Virginia, December 3-5, 1964, for college health educators. The Institute was sponsored by the Virginia State Department of Health with the cooperation of the University of Virginia School of Medicine and the Children's Bureau, U. S. Department of Health, Education, and Welfare.

The sharp acceleration of research in the health sciences plus the abundance of information on health presented to the average citizen have produced new concepts of healthful living at a rate and with a complexity that challenges even those in the health professions.

To meet this challenge in Virginia, the Institute on Advances in Health Sciences had a threefold purpose:

To present new information on some of the most recent research findings in public health, medicine and the health of children;

To aid the health education teachers in keeping abreast of new developments in the health sciences and to reduce the lag between the development and application of new knowledge;

To serve as a stimulus to more effective interdisciplinary planning at all levels on matters of school health and health education.

Teachers of Health Education from more than twenty colleges in Virginia attended the Institute which covered such areas as genetics, mental retardation, rheumatic fever, normals in growth and development, modern concepts of immunology, preparation of handicapped children for daily living and other mental, physical and social health

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concepts and developments.

Lecturers were members of the faculty of the two medical schools in Virginia, both of which are directly engaged in accelerated research in the health sciences. In several instances the doctors discussed research in which they are currently personally involved.

Many questions were answered which will aid the health educators in disseminating information to their students. Perhaps of greatest significance was the fact that much of the information received in the various areas will not find its way into health texts for several years. This information, therefore, is advanced knowledge.

This was the first conference of this type ever to be held in Virginia and the first experience the State Department of Health has had in sponsoring an institute of this nature.

Those in attendance expressed satisfaction with and enthusiasm for this conference and unanimously requested that future institutes of this type be held. The two medical schools and the Children's Bureau will co-operate with the State Department of Health in sponsoring a similar conference next December in Charlottesville.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	June 1965	June 1964	Jan.- June 1965	Jan.- June 1964
Brucellosis -----	2	1	3	8
Diphtheria -----	0	0	0	0
Hepatitis -----	48	33	445	299
Measles -----	450	1390	4121	12658
			(corrected)	
Meningococcal Meningitis	8	5	46	37
Meningitis (Aseptic) ----	1	1	5	7
Poliomyelitis -----	0	0	0	0
Rabies (In Animals) ----	20	14	249	193
Rocky Mt. Spotted Fever--	8	3	14	11
Streptococcal Infections --	607	561	7151	6634
			(corrected)	
Tularemia -----	1	1	4	1
Typhoid Fever -----	0	2	3	9

Current Currents

HEART, CANCER, STROKE: As the Medicare struggle enters its final phase, another controversial issue has made its presence known in no uncertain manner. This is the proposal to combat heart disease, cancer and stroke by establishing regional medical complexes for care and clinical investigation and through research institutes within existing institutions.

Although the campaign to push the legislation (S. 596) through the Congress is moving at a rapid pace, your editors believe it wise to acquaint the membership with several points worthy of consideration, and which will explain the opposition of medicine generally.

1. The establishment of regional medical complexes will have an adverse effect on hospitals which do not become a part of the medical complex. The additional federal support for the medical complex center hospital will place other hospitals in a financially uncompetitive position. The support, together with the prestige involved, will make it difficult for other hospitals to retain well qualified staff, and will make it increasingly difficult for such hospitals to attract residents and interns. This will most particularly be true in rural areas.
2. There is not available sufficient manpower to meet the needs of the proposed regional medical complexes.
3. The creation of regional medical center complexes will discourage physicians from locating in suburban or rural areas. With added funds provided for research in the regional medical center, with centralization of facilities and equipment, with added emphasis to the categorization of disease centers, and with all the attendant prestige, more physicians will be lured to the centers and away from general practice in semi-rural and rural areas. Community general practice may truly come to be looked upon as second rate medicine.
4. S. 596 will not accomplish the stated objectives of the bill—combating heart disease, cancer and stroke. Existing programs and medical care systems provide a means for continuing improvement in the fields of research, training and treatment of these and other diseases.
5. The passage of S. 596 could overburden the physical capabilities of available medical manpower and facilities, particularly when it is considered that this new experiment would be added to another new broad program—Medicare.
6. Claims that cancer and heart disease are capable of being prevented or cured at this time are misleading and tend to substitute emotional judgment for factual understanding.
7. Without the proposed legislation, the present system of distribution of medical care, medical education and research *is* attacking heart disease, cancer and stroke.

AMA and FLUORIDATION: The position of the American Medical Association with regard to fluoridation is set down in a new pamphlet recently published by that organization. AMA first endorsed the principle of fluoridation of community water supplies in 1951, and further reaffirmed this position in 1957. The AMA Council on Foods and Nutrition and the Council on Drugs declared in a joint statement:

"Fluoridation of public water supplies so as to provide the approximate equivalent of 1 part per million of fluorine in drinking water has been established as a method for reducing dental caries in children up to 10 years of age. In localities with warm climates, or where for other reasons the ingestion of water or other sources of considerable fluoride content is high, a lower concentration of fluoride is advisable. On the basis of available evidence, it appears that this method decreases the incidence of caries during childhood. Other evidence indicates as well a reduction in the rate of dental caries up to at least 44 years of age.

"No evidence has been found to prove that continuous ingestion of water containing the equivalent of approximately 1 part per million of fluorine for long periods by large segments of the population is harmful to the general health. Mottling of the tooth enamel associated with the level of fluoridation is minimal. The importance of this mottling is outweighed by the caries-inhibiting effect of the fluoride.

"Fluoridation of public water supplies should be regarded as a prophylactic measure for reducing tooth decay at the community level and is applicable where the water supply contains less than the equivalent of 1 part per million of fluorine."

This statement was adopted by the House of Delegates of the AMA as official policy.

TANGIER: The search for a physician for Tangier is over. As *Current Currents* goes to press, Dr. Oscar M. Watson, Jr., is preparing to move to the island and begin practice. Doctor Watson comes to Virginia from Colorado and represents the culmination of a search which was literally conducted around the world by the Virginia Council on Health and Medical Care.

MARRIAGE: A recent statistical bulletin states that the number of marriages in the United States increased 4.5% in 1964—the sixth year in succession to record a rise. There were about 1,731,000 marriages last year, compared with 1,657,000 in 1963 and 1,580,000 in 1962. In 1964, the marriage rate was 9.0 per 1,000 population (including the Armed Forces overseas), the highest since 1956. The spurt in marriages started in the spring of 1963 and gained momentum after September of that year, when married men were deferred from the Armed Forces draft. However, the upsurge appears to have ended last October; through the early months of 1965, only small increases have occurred.

In Canada, marriages rose sharply last year to an all-time high of about 141,000. This compares with 131,111 in 1963 and the previous record of 137,398 registered in 1946. The marriage rate increased to 7.3 per 1,000 population in 1964, reversing the downswing which has continued since its 1946 peak.

Bernard M. Baruch (1870-1965)

ON JUNE 23, the House of Delegates of the American Medical Association passed a resolution, proposed by the Medical Society of the State of New York, regretting the death of Bernard M. Baruch who was termed "America's Elder Statesman and Philanthropist". The resolution further stated his "influence upon the course of public events was unique", that "his voice was that of an American patriot" and "his selfless devotion to the service of mankind was in the highest tradition of medicine" which had been "his father's and brother's profession".

This tribute from the AMA was eminently deserved. We in Virginia were especially indebted to him. Mr. Baruch made several liberal gifts to the Medical College of Virginia which enabled it to establish a department of physiotherapy which is outstanding among American medical colleges. Through his generosity the ancient and deteriorating Egyptian Building was "restored" to a condition far superior to any state it had enjoyed during the first century of its existence. Mr. Baruch had an abiding affection for this old building for here his father, Dr. Simon Baruch, of South Carolina, attended an accelerated war-time medical class and was graduated in 1862 in time to participate in General Lee's invasion of Maryland in the late summer of that year.

After the battle of Antietam or Sharpsburg, depending upon whether the name of the creek or the town is used, many Confederates were too badly wounded to move from the field hospitals. Dr. Baruch was designated to remain with these wounded men when the Southern army fell back to Virginia. He was taken to Baltimore as a prisoner of war and remained there under mild surveillance until he could be exchanged. His stay was a pleasant one and he was lionized by Southern sympathizers. The photograph of Dr. Baruch in the Confederate Medical Exhibit was taken in a Baltimore gallery during this interlude. This likeness was forwarded to the exhibit by his son Bernard while the current display was being assembled four years ago.

Dr. Baruch was called upon one year later to play the same role after the battle of Gettysburg. Again he was taken to Baltimore but this time his reception was vastly different. He was placed in a cell in Fort McHenry and held as a hostage for a West Virginia physician who was under

a death sentence for a crime he had committed against the Confederacy. Baruch was informed he would be hanged if the Union doctor were executed. This uncertainty marred his second visit to Baltimore but fortunately the West Virginian escaped and Simon was returned to Virginia where he continued to serve until the surrender at Appomattox. Bernard Baruch took an understandable pride in his Southern and medical background. The first notation after his name in *Who's Who in America* states that his father was Simon Baruch, Surgeon, C.S.A.

The resolution adopted by the House of Delegates stated that the passing of this great American represented "a grievous loss to our nation, our people and the medical profession in particular." Especially true is the final phrase, for medicine has lost a loyal friend in a high place, and we have all too few friends in the policy-making echelons of American life today.

H.J.W.

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If it were not for the advertisers the Virginia Medical Monthly would not be able to keep up its good standards and try to provide its readers with what they really want. Of course, we could published a journal without advertising but it would have to be very small and some other means of financing would be necessary—such as an increase in dues!

During the past couple of years, due to various government activities in the drug industry, our advertising has dropped off considerably but we hope has hit the bottom and is now on the upgrade. We can't say too much for the many advertisers who have continued to support the journal during this crisis and they will always be "tops" in our estimate. Some of our old advertisers and some new ones are gradually coming back in our pages.

Have you looked at the advertising spages recently? This should be part of your continuing education—how else can you keep abreast of new drugs, equipment, hospitals, etc. And, of course, we think you should patronize those who support us!

Calendar of Events

NATIONAL CONFERENCE ON PHYSICIANS AND SCHOOLS, Sheraton-Chicago Hotel, Chicago, Illinois, September 23-25.

TENNESSEE VALLEY MEDICAL ASSEMBLY, Tivoli Theater, Chattanooga, Tennessee, September 27-28.

LYNCHBURG GENERAL HOSPITAL DAY PROGRAM, Lynchburg General Hospital, Lynchburg, Virginia, September 29.

FIRST NATIONAL CONGRESS ON MEDICAL ETHICS AND PROFESSIONALISM, Drake Hotel, Chicago, Illinois, October 2-3.

THE MEDICAL SOCIETY OF VIRGINIA ANNUAL MEETING, Hotel John Marshall, Richmond, Virginia, October 10-13.

AMERICAN HEART ASSOCIATION, Miami Beach, Florida, October 15-19.

AMERICAN PUBLIC HEALTH ASSOCIATION, Chicago, Illinois, October 18-22.

AMERICAN CANCER SOCIETY, Virginia Division, Hotel Roanoke, Roanoke, Virginia, October 21-22.

STATE-LOCAL HOSPITALIZATION REGIONAL CONFERENCE (SLH), Hotel Roanoke, Roanoke, Virginia, October 28.

THIRD ANNUAL KIDNEY SYMPOSIUM, Medical Education Building, Medical College of Virginia, Richmond, Virginia, October 29.

STATE-LOCAL HOSPITALIZATION REGIONAL CONFERENCE, Convention Center, Williamsburg, Virginia, November 5.

WESTERN HEMISPHERE NUTRITION CONGRESS, Edgewater Beach Hotel, Chicago, Illinois, November 8-11.

VIRGINIA HOSPITAL ASSOCIATION, Marriott Twin Bridges, Arlington, Virginia, November 18-19.

Meetings of the various specialty societies during the 1965 Annual Meeting of The Medical Society of Virginia will be covered in the program issue for September. Members are invited to contact the State Office for information concerning any state, national or international meeting. We are endeavoring to maintain as complete a file as possible.

Dr. W. T. Thompson,

Professor and Chairman of the Department of Medicine at the Medical College of Virginia, has been appointed to the Editorial Board of The Medical Society of Virginia. Dr. Thompson will fill the unexpired term of the late Dr. Ennion Williams.

Annual Meeting.

The Annual Meeting is almost here, and the September issue will carry a preliminary program, committee reports, schedule of social events, and other related information. The meeting, which will be held at Richmond's Hotel John Marshall from October

10-13, promises many pleasant surprises for members and their wives. This will be the first time the Society has utilized the "new" convention facilities of the John Marshall and the local Committee on Arrangements is sparing no effort to make this meeting one of the best.

Edwin F. Smith, Jr.,

Assistant Executive Secretary of The Medical Society of Virginia for the past 12 years, left on August 1 to establish a regional office for the American Medical Political Action Committee (AMPAC). During the past two years, Mr. Smith had also served as Executive Secretary of the Virginia Medical Political Action Committee, and it was his fine work with that organization that caused AMPAC to select him for the Atlanta post.

New Staff Member.

David Pillsbury, an alumnus of Randolph-Macon College, joined the staff of The Medical Society of Virginia on July 19. Mr. Pillsbury has assumed the duties of Ed Smith, who is now with AMPAC in Atlanta.

Johnston-Willis Hospital.

Dr. Donald S. Daniel has been chosen to succeed Dr. Frank S. Johns as President of Johnston-Willis Hospital, Richmond. Dr. Johns has served as Chief of Surgery since 1929, and as President since 1946. He was named Honorary Chairman of the Board.

Newly elected members of the Board are Drs. William Allen Johns and Thomas N. P. Johns.

Dr. R. G. Beachley,

Retiring Director of the Arlington Health Department, has been honored by the Arlington County Board. In a resolution adopted at its June meeting, the Board took notice of Dr. Beachley's 27 years of service to the Arlington Health Department and called attention to the fact that public

health standards in the County "have been rated among the highest in the U.S."

Dr. Anderson.

The name of Dr. Clayton Anderson, Winchester, was very much in the sports news during July. Dr. Anderson was a challenger for the State Amateur Golf Championship.

Dr. Massey.

Dr. John W. Massey, Jr., Newport News, has been named President-Elect of the Virginia Heart Association. He will take office on June 30, 1966.

Virginia Academy of General Practice.

A non-profit foundation has been established by the Virginia Academy of General Practice to help Virginia general practitioners keep pace with medical developments. The foundation will also encourage medical students to enter general practice and will offer financial assistance to those eligible. The foundation is the first of its kind in the nation and will be supported by contributions from Academy members and other interested individuals and organizations.

Cruise Seminars

Are apparently becoming quite popular. The mails have brought announcements of two more—one a Caribbean affair sponsored by Georgetown University School of Medicine from October 29-November 12, and the other a Bahamas cruise by the Department of Obstetrics and Gynecologists of the University of Florida College of Medicine from February 28-March 4, 1966.

Wanted

One overworked general practitioner, or internist preferably under age 40 for outstanding career opportunity in life insurance medicine. New York City. Good hours. Paid vacations. Outstanding retirement plan. Stimulating work. For further par-

ticulars, write #65, enclosing resume, Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23211. (*Adv.*)

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For full- and part-time, Veterans Administration Regional Office, Roanoke, Virginia. Work in fully staffed Mental Hygiene Clinic and Outpatient Clinic; annual salary up to \$18,850, depending on qualifications; excellent fringe benefits; citizenship required; licensed in any state; non-discrimination in employment. Housing available; excellent school and cultural facilities; large metropolitan city in heart of Roanoke Valley in Blue Ridge Mountains. Contact Director,

Outpatient Clinic, Veterans Administration Regional Office, 211 West Campbell Avenue, Roanoke, Virginia 24011. (*Adv.*)

Needed.

General physician-family internist—by four man group in growing rural program in West Virginia. Modern clinic facilities, regularly visiting specialist consultant staff, scheduled training, and vacation periods, foundation sponsorship, no investment required. Starting net income range \$14,000-\$18,000, depending on qualifications.

For further information, write #20, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23211. (*Adv.*)

Obituaries

Dr. Hubert Christopher McCoy,

Gordonsville, died June 30th, at the age of fifty-nine. Dr. McCoy was a graduate of the University of Virginia School of Medicine and a co-founder of the Gordonsville Community Hospital. He had been a member of the Medical Society of Virginia since 1934.

His wife, two daughters and a son survive him.

Dr. Rucker.

Joseph Edward Rucker was born on October 18, 1901, in Moneta, Virginia, a small village in Bedford County. He was one of thirteen children whose father was Dr. Samuel L. Rucker, a typical country doctor, beloved in his rural community. His mother, Elizabeth Phelps Rucker, was a most courageous woman who, after the untimely death of her husband, reared the thirteen children, each of whom, with one exception, attained a professional degree.

Dr. Rucker attended grade and high school at Moneta. Following his high school graduation in 1919, he attended Randolph-Macon College for two years and left to enter the Medical College of Virginia, from which he was graduated in 1925 with the degree of Doctor of Medicine. In the hospital division of the Medical College of Virginia, Dr. Rucker served his rotating, one-year internship, followed by a three-year residency in medicine. During this pe-

riod, from 1927 to 1929, he served as instructor of medicine.

In 1930 Dr. Rucker entered private practice as a general practitioner in Charleston, West Virginia and served his community faithfully for 23 years. He was always an active staff member of the various hospitals in Charleston and gave generously of his time to committee and board responsibilities.

Dr. Rucker has always harbored a deep and abiding love for southwest Virginia, and in 1953 returned to his home state and established his home in Roanoke County and joined the staff of the Veterans Administration Hospital. During these past twelve years, Dr. Rucker endeared himself to the staff and patients of the VA Hospital and continued his affiliation with appropriate medical societies.

Dr. Rucker married Helen Gertrude Hiss of Plymouth, Indiana. They have a son and a daughter.

Dr. Rucker lived a full and eventful life and somehow attained a balance of interest and effort between his close-knit family, his profession, his yard and garden, his reading, his skeet-shooting, and his community activities. He was a prominent and faithful member of the First Methodist Church in Salem, Virginia, a 32nd Degree Mason and Shriner, a member of the Fleming Hunt Club, the Hidden Valley Country Club, and the Rocky Mount Skeet Club.

Dr. Joseph Edward Rucker died April 12, 1965. He will be remembered as a physician, family man, humanitarian, and a gentleman.

WHEREAS: The Roanoke Academy of Medicine shares in this loss and wishes to take some action

that might indicate our sympathy and concern in this bereavement.

BE IT RESOLVED: That a copy of this resolution be entered in the Minutes of the Society, another sent to his widow, and another to the Virginia Medical Monthly.

J. B. BOUNDS, M.D.

Dr. Watkins.

On May 10, 1965, Dawson Edward Watkins, M.D., was called to rest from thirty-four years of active practice as a physician and surgeon.

He was born in Richmond, on July 30, 1906, to Dawson Edward Watkins and Virginia Neal Watkins. He was educated at Fork Union Military Academy and the University of Virginia, where he received his B.S. in 1927 and his M.D. degrees in 1931. He served an internship at Medical College of Virginia and was a resident at Elizabeth Buxton Hospital, Newport News.

In April 1934, he joined Dr. B. K. Weems in the operation of the Weems-Watkins Hospital in Waynesboro, which had been opened in February 1934.

During the following thirty years, he served his community both as a physician and an outstanding citizen. In 1950, he restricted his practice to surgery. During his years of practice in Waynesboro, he served the community on the Board of Health, and as a member and chairman of such organizations as the

Virginia Cancer Society, Virginia Blue Cross Association and chairman of the Board of Medical Examiners of Virginia.

He was an Elder of the First Presbyterian Church, a Mason and member of the Waynesboro Rotary Club.

He had served as chairman of the Staff of the Waynesboro Community Hospital on two separate occasions and was chief of surgical service at time of his death.

His quiet manner, cheerful smile and quick walk will long be remembered by his many patients and friends.

He is survived by his mother, his wife, the former Mary Evelyn Stephenson of Waynesboro, two daughters, two sons and six grandchildren.

WHEREAS, we, the Staff of the Waynesboro Community Hospital, feel a great loss as the result of the death of a fellow member and friend and, whereas, his activities on behalf of his patients, friends and particularly the Waynesboro Community Hospital were marked by a spirit of conscientious and unselfish service.

THEREFORE, BE IT RESOLVED that this memorial shall be preserved in the Records of the Staff of the Waynesboro Community Hospital and shall be sent to the Augusta County Medical Society and the Medical Society of Virginia.

BE IT FURTHER RESOLVED that copies be forwarded to the family of Dr. Watkins as an expression of our sympathy.

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(Founded by Landon B. Edwards, M. D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

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4205 Dover Road

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Annual Subscription—\$2.00

Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL

"The Sands Treatment"—*T. Stacy Lloyd, Jr., M.D.*----- 399

ORIGINAL ARTICLES

Coma Associated with Deranged Carbohydrate Metabolism—
William R. Jordan, M.D.----- 401

Is Virginia Nursing Tuned-in?—*John Rogers Mapp, M.D.* 405

CLINICOPATHOLOGICAL CONFERENCE

Vomiting, Stiff Neck and Abdominal Pain in a Two Year
Old ----- 409

DIAGNOSTIC LABORATORY MEDICINE

Isozymes of the Lactic Dehydrogenase—*Z. S. Islami, M.D.* 416

PUBLIC HEALTH

Nutrition Challenges in Medicine----- 417

MENTAL HEALTH

Mental Patients in Nursing Homes—*Hiram W. Davis, M.D.* 419

THE MEDICAL SOCIETY OF VIRGINIA

Preliminary Program—Annual Meeting----- 423

Annual Reports ----- 432

Delegates ----- 446

Presidents ----- 448

WOMAN'S AUXILIARY

Program for Annual Meeting----- 449

EDITORIAL

Diverticulosis and Diverticulitis of the Colon—
Christian V. Cimmino, M.D.----- 451

The VaMPAC Banquet—*James M. Moss, M.D.*----- 453

NEWS ----- 454

OBITUARIES ----- 456

The MONTHLY is not responsible for the opinions and statements of its contributors
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Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 54

Guest Editorial

"The Sands Treatment"

THE SCOURGE OF THE WOMAN and her doctor's bete-noir is backache. As practiced by modern American man, it serves as a work-shirking device, a compensatory mechanism of insoluble proportions, and a profitable ailment for litigants and their advocates.

Sundry though its forms and causes be, nonetheless its sources can be physical and its symptoms disabling.

So, therefore, to skip back through our journals to 1958,* we find a discussion of a peculiar type and its cause-effect-treatment-cure fractions.

This particular discussion is arresting by its very nature—the insertion of a mechanical matter into an era of nuclear physics, nucleolar medicine and scintillating surgery.

Now, gentlemen, editors are only human—the ones I have met. So therefore before we condemn them for what may seem inane—let us keep open minds. The far-sighted editor who let through the following story did a great boon to the lady-folks.

Admittedly we were hard put to conceal our self-consciousness at our first sallies into the esoteric realm of joint manipulation. But when the first patient we treated in the manner hereinunder described made a special call to heap profuse encomia on us, it bestruck us that this was surely no humbug.

To get down to cases, the story is this: in pregnancy the elusive hormone relaxin produces softening of the sacroiliac ligaments, inter alia. By virtue of woman's more or less upright stature, the shearing forces on the sacroiliac joints produce a slippage. This is because man's anatomic evolutionary adaptation has not kept pace with his postural propensities. Hereabouts this slippage is described as a "catch" and the lady-folks so afflicted say that when it hits them, they can't move.

This, in itself, is almost pathognomonic of the condition. Therefore in patients who present such complaints, to make the diagnosis—press over the respective sacroiliac joints with your fingers and ask the ladies if those are the places where the catches strike. If the answer is affirma-

tive, you proceed with the treatment. If the answer is not quite so affirmative—remember—they may still be benefited by the procedure.

For the classic description of the therapeutic routine, the reader is referred to the source. In brief, you do this: let the mother-to-be lie on her side on a flat examining table with her back toward you. (My practice is to do the maneuver with the patient's head to my left.) Then ask her to dangle her uppermost leg forward over the edge of the table and downwards toward the floor, the while pressing her uppermost shoulder back toward the tabletop. For the best results she should be at the far edge of the table from you, so that she is almost slipping off hip-wise and lying flat shoulder-wise. Now, while exhorting her to relax and keeping the upper shoulder pressed down and back with one hand, lay your other hand over the greater trochanteric area of her ipsilateral hip. When you feel that she is relaxed, push forward with the hip hand, BACK-AND-DOWN with the shoulder hand. Be FIRM. Don't JERK. FOLLOW THROUGH!

If you have done it right on a properly selected patient, you should hear a distinct "pop", or some similar noise arising from the upper sacroiliac joint. Sometimes, as the corrugations of the articular surfaces slide over one another, you get a sound like the far-away clatter of a string of fire-crackers.

Occasionally the patient will complain of a discomforting sensation in the shoulder or lower ribs as you are getting her positioned. You should then assure her that this will not cause any difficulties, and that the treatment usually gives great and immediate relief. If she is unable to relax her dorsal muscles, the joint is splinted and your efforts will probably be fruitless. (You might consider trying again in a few days after having her take a muscle-relaxant.)

After performing (or attempting to perform) this routine, have her lie on her other side, at the opposite edge of the table next to and facing you. YOU stay in the same place. Then you perform the same twisting procedure, in the reverse direction, of course. This should produce the same signs, symptoms, and sounds in the contralateral structures.

The benefits from this maneuver may last for days, or indefinitely. Caution must be exercised, however, with the patient who requests repeated manipulations. Undue ligamentary laxness may be aggravated by too many treatments.

The moral is this: The "laying-on of hands" still has its place in the profession, whether to squeeze a tremulous hand, caress a fevered brow, hug a shuddering shoulder, or twist a tortured back.

*Sand, Richard X. *Obst. & Gynec.* 12: 670, 1958.

T. STACY LLOYD, JR., M.D.

The Pratt Clinic
1200 Prince Edward Street
Fredericksburg, Virginia 22401

Coma Associated with Deranged Carbohydrate Metabolism

WILLIAM R. JORDAN, M.D.
Richmond, Virginia

Prompt and vigorous treatment is essential in diabetic coma and fortunately the diagnosis is obvious in the typical case. Often, however, the situation is confusing but an understanding of diabetic coma and the use of a few well chosen laboratory tests will give the correct diagnosis.

THE TITLE OF DIABETIC COMA leads one a bit afield, since the diagnosis of diabetic coma is often suspected, and properly so, even when unconsciousness is not due to diabetic acidosis. One may be due to true diabetic coma, another to hypoglycemia, and others due to various conditions, including heart failure, anemia, drug intoxication or infection or even injuries which happen to exist in a diabetic person.

Diabetics are urged to carry identification with the statement that they have diabetes. If this is done, the doctor immediately has pertinent information that will help in the diagnosis and treatment. If diabetes is present and the patient has been treated for it, one needs to consider the possibility of coma as a result of either of two things, true diabetic coma or coma as a result of treatment, i.e., hypoglycemia. To rule out these two conditions is usually easy. If neither seems to be the cause of coma, one can immediately search for another cause of coma. If the patient is old, as is the average diabetic, vascular disease should be considered.

An unconscious person found with four plus urine sugar is often and properly considered to be in diabetic coma. Confirmation is accepted if four plus acetone is also found. Yet many times the patient is unconscious from another cause which may or may not have contributed to the high sugar. Although treatment for the high sugar is indicated, a more definite diagnosis is worthwhile from two points of view. If the coma is due to diabetic coma, intensive therapy is mandatory. If the coma is due to another cause and the patient just happens to have uncontrolled diabetes, vigorous treatment for diabetic coma may be harmful, and, in addition, proper therapy for the true cause of unconsciousness may be neglected.

As far as congestive failure is concerned, the signs of failure should be obvious and proper treatment should be given. One must remember that diabetic acidosis is about the strongest antidote to congestive failure available today. If we correct the acidosis rapidly, the congestion is prone to increase in spite of other forms of diuresis and cardiac support. One has but to remember the signs of uncontrolled diabetes, polyuria and dehydration, to understand that control of the diabetes reduces the marked natural diuresis of the disease and forces us to use extreme measures to overcome this additional congestion induced by our therapy. A reasonable, but at times inadequate, approach to treatment involves the slow and gradual correction of the diabetic acidosis while we are instituting vigorous treatment for cardiac failure.

Quite often we see unconscious patients with urinary sugar and acetone who have

no obvious hemiplegia. A cerebrovascular accident may not affect the motor areas of the brain, yet the patient may not attempt to move any limb. The fact that he doesn't move doesn't mean, necessarily, that he can't move. Other signs help to establish the diagnosis. Since the uncontrolled diabetic acidosis is apt to be the most urgent disease and the most amenable to treatment, it seems well to determine the presence or absence of such acidosis and its severity.

In both congestive failure and cerebral vascular accidents the breathing may resemble the hyperpnea of ketosis, and dehydration may be marked. The presence of congestive failure in a case of severe diabetic acidosis of itself is unusual because of the dehydrating effect of acidosis, so that its presence is significant. The demonstration of hemiplegia or other significant neurological signs helps to establish the diagnosis of a C-V-A. Nevertheless, we still should rule out advanced acidosis. A very high blood sugar is insufficient evidence, as is acetoneuria or even a lowered CO_2 combining power of the blood which may be due to inorganic causes or uremia. If diabetic coma is present, the serum or plasma acetone will be positive in considerably diluted specimens. Unless such is found, one may abandon the diagnosis, find the cause of the coma, and treat it and the uncontrolled diabetes simultaneously.

Delirium and coma associated with infection are well recognized. Again we should first rule out diabetic acidosis as a cause of coma if the urine contains sugar and acetone and at the same time search for the signs of infection and treat it as indicated, remembering that abdominal and chest pain and marked leukocytosis may be a result of ketosis alone.

The important factors in arriving at a proper diagnosis are that coma from diabetic acidosis produces definite signs, including primarily marked dehydration and hyperpnea (air hunger), and that congestive failure, a C-V-A, or infections also present us

with recognizable signs, and finally that diabetes not only may be, but also often is, associated with one or more of the other diseases and that treatment involves the care of the patient as a whole. One may mention that sweating in a proven case of diabetic coma occurs only in a person with concomitant infection as illustrated in case number 196 with ketosis and staphylococcic pneumonia. Queerly enough, confusion arises even in the uncomplicated diabetic who is brought in unconscious and the catheterized urine contains acetone and four plus sugar. Bladder urine may be old urine secreted hours before it is obtained. The blood sugar may have been high when the first part of this urine was formed, and an overdose of insulin may have bound the glycogen so firmly that the later urine contained acetone formed because of no available glycogen. If a history is available, the diagnosis of hypoglycemia is indicated by the sudden onset of the symptoms versus the slow onset of acidosis in hours or days. If in doubt, treatment for low blood sugar is always given until a correct diagnosis is made. This coma induced by injected insulin usually is diagnosed with ease, due to the known history of insulin injection, as compared to the spontaneous coma produced by an insulin tumor, the opposite of diabetes. This just emphasizes the importance of a stat blood sugar in all unconscious persons BEFORE treatment is given. One is not always fortunate enough to have immediate recovery from the routine administration of I-V glucose and the finding of marked hypoglycemia the following day as occurred in one of my cases of insulin tumor, number 1748.

Diabetics are also brought in unconscious from drug and alcohol intoxication which by vomiting or prolonged lack of food intake may also cause diabetic coma, especially in the alcoholic who is so used to malaise and vomiting after a debauch that he never thinks of acidosis as a cause of his symptoms and may not be brought in for medical

care before death occurs (case number 4241). Actually unconsciousness from low blood sugar, due rarely to islet cell tumors of which I have seen only six, is much more frequent in patients treated with insulin and does at times occur if the oral hypoglycemic drugs are given in excessive doses to the susceptible diabetic or even the islet cell tumor case.

Diabetic coma is still a real danger to the diabetic but of decreasing incidence since the doctors and the patients have become more aware of the signs and the need for immediate treatment to prevent complete coma. It affects the young and the old.

In my series are 113 coma cases. The youngest at onset of coma was twelve months and two went into coma at the age of seventy-six years. However, the young person is more prone to become comatose, due in part to the severity of his disease. Forty-five percent of this series had the onset of diabetes between the ages of twelve months and fifteen years.

The diagnosis is based on drowsiness or unconsciousness in a dehydrated and hyperpneic person whose urine in almost every case contains four plus sugar and acetone. Confirmation is obtained by a high blood sugar, a CO_2 of nine milliequivalents or less, and a considerable amount of blood acetone.

The blood sugar need not be an index of acidosis. I have seen a blood sugar of 1440 (case number 538) in a man not in coma, and one case of coma had a blood sugar of 276 (case number 399) and three others of less than 300mg. The highest blood sugar was 1560mg. in the twelve month old baby (case number 2548). The patient with the highest blood sugar and the patient with the lowest blood sugar survived. Fourteen patients had a blood sugar of 1000mg. or over.

The CO_2 was seven milliequivalents or less in 70% of the cases and five milliequivalents or less in 40%. The white blood cell count ranged from seven thousand in two children to 59,800 in a fourteen year old without infection (case number 1080).

One-third of the patients had over twenty thousand white cells. The BUN was above 20mg. in two-thirds of the cases and above 50mg. in more than one-fourth of the group, the highest being 107mg. in a fatal case.

The total mortality, including death many days after recovery from coma, was 12%. Of the physical signs, total unconsciousness and very low blood pressure were the most ominous. The mortality rate in totally unconscious patients was 25% and only 3% in the semiconscious group comprising about half the series. Similarly the low blood pressure group had high mortality. The mortality of these patients with a blood pressure of zero to eighty mm. was 44%.

The treatment of diabetic coma has changed little in the past thirty-five years. The two major needs are insulin and intravenous salt solution. The size of the insulin dose varies markedly. One child responded to 18 units and one adult to 120 units. The largest requirement in the first three hours of treatment was 800 units except in a case of insulin resistance that required over 7000 units, both of whom died, albeit with good laboratory values. In the first three hours one may give $\frac{1}{2}$ unit of insulin per milligram of blood sugar in the totally unconscious adult. Intravenous fluid varied from 1000cc in a child to 9000cc in one adult, the usual amount varying between 2000 and 3500ccs. With such treatment, one expects a fairly good drop in blood sugar and rise in the CO_2 value within six hours.

Adjuvant treatment includes gastric lavage (preferably in all cases), antibiotics to take care of infection with and following coma, circulatory aids and kidney stimulants such as caffeine I-M, and even emergency surgery such as drainage of a huge carbuncle. This last was done in case number 952 because he was essentially unconscious, not responding well to the treatment for acidosis and had a temperature of 106° ,

a pulse of 150 and a blood pressure of 180/0. I believe prompt surgery saved his life.

Of the 113 cases, 29 had complications such as infection and thrombosis, and one had thyrotoxicosis. Of the fatal cases all but three had a complication such as mesenteric thrombosis or infection with or without a blood pressure of 80 or less. Three

deaths occurred in children. In one hypoglycemia with convulsions occurred. In the other two, no complication was found, but in neither was there any return of consciousness even after the restoration of essentially normal blood chemistry as tested.

1631 Monument Avenue
Richmond, Virginia

Weight Standards

Height-weight tables most commonly used as standards for overweight and obesity—namely, those of the Metropolitan Life Insurance Company—"are not representative of the current weights of the adult population; they are considerably lower," according to Carl C. Seltzer, Ph.D., of Boston.

Their tables of *average* weights for men and women give values about 9 or 10 pounds less for men and 3 or 4 pounds less for women than those of a recent, carefully conducted national survey.

There is an even greater discrepancy in the Metropolitan table of "ideal" or "desirable" weights for men and women. This consists of weights corresponding to what the life-insurance company believes "people *should* weigh by the criterion of greatest longevity," based on the mortality experience of their policy holders.

Dr. Seltzer said "it should be pointed out that the desirable weights of the Metropolitan Life Insurance Company are not as it is alleged, 'probably close to the averages observed at ages 25 to 30.' In fact, the midpoint of the ranges of *desirable* weights for men with a medium frame is about 10 pounds less than the *average* weights of men twenty-five to twenty-nine years of age in their own insurance tables. Furthermore, for men, the Metropolitan *desirable* weights (midpoints for medium frame) are frequently as much as 20 pounds less than the *average* weights of men in the national survey, even at the younger age levels—for example, twenty-five to thirty-four years of age."

Persons using the tables of *desirable* weights for men and women "should be aware of the severity and often unrealistic requirements of these tables, and the marked extent to which they are below the known average weights of Americans, including young adults."

Dr. Seltzer noted that there has been some criticism of these insurance company standards in the past. However, the recent national survey of adult heights and weights conducted by the U.S. Public Health Service "at last provides a definitive yardstick from which the representativeness of the insurance-company standards may be judged."—Letters, *New England Jour. Med.*, May 27, p. 1132.

Is Virginia Nursing Tuned-in?

JOHN ROGERS MAPP, M.D.

Nassawadox, Virginia

IT HAS BEEN MY PLEASURE to observe and be associated with nursing for nearly thirty years. The crisply starched uniforms of the R.N.'s and students of the thirties rarely failed to attract my admiration. This was enhanced by three or more years of an even more demanding relationship as I worked in association with University and other Virginia nurses in Africa and Italy in our 8th Evacuation Hospital during World War II. The contribution of our nurses was magnificent. They readily accommodated to every situation. They improvised, they worked ceaselessly when necessary, they inspired their enlisted helpers to perfections previously unknown to them, and they made the wards, which consisted of cots in tents on dirt or mud, quarters of "luxury" for the wounded and sick.

Since the War, I have followed these friends who gradually disappear from the field of nursing but a few still do bedside nursing and a few have advanced to high position like Elizabeth Harlan who is Chief Public Health Nurse in Virginia. Fifteen years ago, I began teaching student nurses. This was a valuable association but more recently, we are rarely called upon to teach. Though I appreciate not having to give up valuable hours of busy days for teaching, I know that I am the loser for want of the relationship, for not getting to know our on-coming nurses better and earlier in their careers.

My special relationship to nursing in Virginia, as representative of the medical profession, began as a result of my opposition to trends which were responsible for

loss of our small R.N. school at Nassawadox about seven years ago. We did train some good R.N.'s, but it is doubtful if we could today with the increasing difficulty of meeting standards and costs. We are perhaps better off with the Practical Nurse School though the number of good useful nurses we acquire, per student admitted, is painfully small. Out of 26 admitted to our Practical Nurse School last year, we graduated 11. Of these, one went to R.N. school and another to become a surgical technician. The yield is small for running a hospital. The course is hard, much being required for a one year study period. The Hospital couldn't afford it without the help of public education funds.

In the last five or six years, my committee has enjoyed a most pleasant and rewarding relationship with the splendid group of women who are Virginia's Nurse Examiners. In the last two years, we have met with the fine officers of the Virginia Nurses' Association. We have learned some of your problems and successes. We have, I think, been able to help our colleagues in medicine in Virginia to understand problems that have arisen on occasion. Physicians tend to go their busy ways, to be demanding without taking the time necessary to understand the problems of nursing. These problems daily become more difficult to rectify. All of us are too busy, the nurses and the doctors, too sparse in number for the job at hand, to have the time necessary to understand the problems of each other on a day-to-day basis. Each group has tended to attempt solutions of problems separately and hoped for the best in patient care. There is too rarely the time, the organization, or the inclination to sit down together and

Delivered to Virginia Nurses' Association Convention, October 17, 1964.

Dr. Mapp is chairman of the Committee of The Medical Society of Virginia for Liaison with Virginia Nurse Examiners and Organized Nursing.

work out the details more concisely, for better patient care.

The increasing requirements on the time of doctors make it necessary that many venipunctures as for infusions and some medications now be given by nurses. Other relegated duties include passage of tubes into the gastro-intestinal tract and wound dressings. We have seen to it that this is now legal in Virginia and we would urge all nurses who do not feel competent in these activities to make it known to their supervisor so that staff training can be arranged. If it seems an imposition on nurses today, we believe the times justify it. After all, it has been rightly pointed out that the bloodstream has as high a latitude for abuse as other avenues of administration to the body. This situation we have arrived at is simply a part of the increasing technicality and complexity of tending the sick. After all, the professional nurse has been called upon to take on more complicated duties in the care of the sick since the inception of modern nursing about 80 years ago.

We reject completely a statement made by Katherine R. Nelson, R.N., Ed. D., assistant professor of nursing education at Columbia University at the ANA-AMA Conference in Williamsburg in February.¹ "Physicians are trying to turn the nurse into a 'practical doctor', to use the nurses' services to administer intravenous solutions or give transfusions, dress patients' wounds after surgery, and to solve the problems caused by lack of doctors by getting the registered nurse to do their jobs. But nurses are rejecting the idea of being 'practical doctors'—they want to be professional nurses making their own independent judgments, giving society the benefit of their competence."

There is no argument about judgment. All of us must exercise that daily, no matter what we do or what is our station in the realm of medical care.

It should be quite clear to the thoughtful that a chain of command in the care of a

patient must inevitably begin in the mind of the physician responsible to and for that patient. Talk of independent action by the nurse "with or without a doctor"—by Miss Nelson must certainly be classified as dangerous advice, except in emergencies where there is no doctor to be had. Certainly we who are physician-consultants don't feel free to take such liberties and we don't want them. Actually, the wages of mal-practice actions in the courts would soon overtake such offenders.

To bring you more tangible detail from this ANA-AMA Conference is incumbent upon me. A great deal was said about the emergence of nursing as a profession and the need of joint conference and study of patient care. This conference would include the administration, the nursing service, and the physicians of a given hospital. Dean Frances Reiter of New York Medical College School of Nursing has summed it up thusly:² Of the 550,000 professional nurses employed in the United States today, 300,000 are in hospitals, along with 225,000 practical nurses and 400,000 aides. Only 10% have bachelors degrees. The average doctor expects the nurse to observe the patient's condition, communicate her observation, follow orders for tests and drugs, give treatments and arrange technical and professional services. Many physicians and nurses feel her place is to assist the doctor rather than the patient. In public health, in the home, in industry, in the school, and in doctors' offices, she has more latitude of action but less than half of professional nurses occupy these positions. Only 13% of employed nurses are in private practice and this is generally in hospitals. Since World War II there are more hospital beds, more services offered patients in hospitals and legions of people employed and trained to give them. Professional nurses are now called upon to arrange or to manage total nursing personnel, some 900,000 persons.

Miss Reiter says coordination of patients' schedules for diagnosis and treatment is

more properly the duty of administration. The doctor's time likewise is increasingly involved with arranging schedules for patients, inter-acting with a constantly increasing number of people in the hospital whose skills must be brought to bear on the patient. Neither can be liberated to any extent from these responsibilities at present, professional judgment being an essential component. As to watching the patient, her relationship has become a nurse-aide-patient relationship. Her clinical eyes and ears are blinded and deafened by the intervening nursing assistants. As to giving medications, the nurse's role is the essence of interdependence with physicians and getting more complex. Miss Reiter quotes Dr. John H. Knowles,³ "today the nurse has not achieved full professional status in her own eyes or in the doctor's eyes by reason of her inability to expand her educational process. The pay is too low, flexibility is constricted, and return on the apprentice is still expected by the hospital." Again quote, "the nurse today is expected to be an expert technician, therapist, administrator, and social worker and still give highly personal care."

Miss Reiter feels the professional nurse should be upgraded, her role re-defined, her training improved, her partnership with the physician made closer. She should have access to senior position along clinical lines as well as administrative. The "nurse-clinician should assume responsibility and authority similar to that of attending physicians".

Miss Reiter felt that the Williamsburg Conference was the first step in exploration of relationships and impact on patient care. It was agreed physicians and nurses must re-orient some of their thinking and that changes in responsibilities must be predicated on clear definitions of patient's needs. She wishes for "colleague relationships between clinicians, physicians and nurses" based on a mutual trust and respect and shared understanding of the language of science.

Dr. Edward Pellegrino of the University of Kentucky Medical School Department of Medicine, said,⁴ "the truly ethical core of the codes of both professions derives from the dignity and worth of the patient as a person. This is the criterion against which all new arrangements must be measured."

Miss Barbara Schutt, R.N., Editor of the American Journal of Nursing, has also given a very careful analysis of the ANA-AMA conference in the April 1964 issue.⁵

Virginia medical men who have read these utterings and thought about them are inclined to think this "citadel talk"! An editorialist in the Virginia Medical Monthly suggested⁶ that the proper place for such ambitions is entrance to medical school, and when one thinks of the variation of training levels for suggested "colleague relationships", he makes a lot of sense. But on the other hand, the many wise people who spoke at Williamsburg out of long developed and clear convictions have indeed laid the ground work for further thought and development in the best interests of the patient, the nurse, and the doctor and of this I am convinced.

The Medical Society of Virginia has now arrived very clearly and sharply focused on the point that something *must* be done to relieve the shortage of nurses. The Nursing Liaison Committee I chair, has independently concluded this in each of five areas in the State by study of their local conditions. The matter has been discussed with administrators, nurses, and physicians. We in turn have endorsed the Prangle Plan as a reasonable one, deserving of study by a proposed joint committee. This committee is postulated to be composed by joint agreement between The Medical Society of Virginia, the Virginia Hospital Association, the Virginia Nurses' Association, and the Virginia Board of Nurse Examiners. The Medical Society of Virginia has in the week just passed studied this resolution here in convention in this hotel and agreed with my committee. Had the Nurse Liaison Committee not come forward with this plan, it

would have been pre-empted by similar motions ready for presentation by other elements of The Medical Society of Virginia.

The Prangley Plan⁷ is fathered by Mr. Roy Prangley, experienced Administrator of the Norfolk General Hospital, who has worked at it over a period of years. He has outlined it in detail and we, Virginia physicians, hope that you, the Virginia Nurses' Association, will go along with us in agreement that it is worthy of further study by the proposed joint conference committee. We feel that this should be done with as little delay as possible.

The Prangley Plan conceives that the ideal bedside nurse would be one trained in the hospital for a two year period. Entrance requirements would be such that graduates in the upper half of high school classes who are inclined to care for the sick, would be the field for recruiting, as opposed to the upper thirds of graduating classes as demanded by present R.N. programs.

The Prangley Plan would call for curriculum changes to give this "Certified Bedside Nurse" the essentials she needs for sound responsibility in the administration of medications and other bedside duties. Such courses as are non-essential or too difficult would be omitted so that the average girl could ultimately become licensed at this level. The R.N. would be up-graded to supervisory and teaching duties and this category should be educated to the baccalaureate level. The practical nurse would continue in her present intended role, and allowed to go on to the second year of training to reach the C.B.N. level, if she aspires to it.

It is our notion that if possible we, the four groups listed, should form a joint vol-

untary committee and work this out in Virginia. If agreement could be reached, we could go to the General Assembly for enabling legislation. Other states have and are forming joint committees for study of their nursing shortages and these committees have been productive. Let us, if necessary, take a lead. We are as able as any others! Again, let me say to you that this is a most pressing and urgent communication from your physician confreres who actually roared approval in indicating the pressure they felt for this step. I beg of you to go along with us in this matter. You may gain a valuable ally in so doing and it is certain that in these times, things are not likely to stand still. Either we supply the sick with the care needed or the privilege of doing so as free agents will be lost to us, you and us!

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Nassawadox, Virginia*

Clinicopathological Conference

Vomiting, Stiff Neck and Abdominal Pain in a Two Year Old.

Prepared and Edited by

DR. PAGE HUDSON

and

DR. JOHN H. MOON

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DISCUSSANTS:

Dr. William E. Laupus, Professor and
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Dr. M. Pinson Neal, Jr., Associate Profes-
sor, Chairman of Division of General
Roentgen Diagnosis, Department of
Radiology

Dr. John dos Santos, Associate Professor,
Division of Clinical Pathology, Depart-
ment of Pathology

Dr. William F. Collins, Jr., Professor and
Chairman of Division of Neurological
Surgery, Department of Surgery

Dr. Julio H. Garcia, Assistant Professor,
Chief of Neuropathology Laboratory,
Department of Pathology

The patient was a two year old Negro female who was admitted to E. G. Williams Pediatric Service on 4/12/64 because of anorexia and vomiting. The mother stated that the child had been well until about two weeks prior to admission when she developed fever and began vomiting after eating. Shortly after this her neck became stiff and she began to complain of generalized abdominal pain. She was seen by her physician who started her on Gantrisin® and penicillin but she continued to be anorectic and then developed a fluctuating ataxia. The ataxia was most severe in the morning. She was seen by a physician on the morning of admission and referred here for further evaluation.

The mother denied that the child had had seizures, diarrhea or abnormal bleeding.

There was no history of pica or trauma.

Past medical history was not remarkable.

The family history revealed that she was one of six children. The mother and father were living and well and none of the other children had been sick. There was no familial history of tuberculosis, diabetes, carcinoma or seizures.

Physical examination on admission revealed T. 99°, R. 40, B/P 120/70, P. 110, weight 26½ pounds. The patient was alert and cooperative and showed normal development for her age. There was no nuchal rigidity and the fontanelles were closed. She was normocephalic. The fundi were normal. Neurological examination was normal except for a little unsteadiness in her gait despite good muscle tone.

Laboratory data revealed: Hemoglobin 11.2 gm.%, WBC 9,300, 23% neutrophils, 2% eosinophils, 1% basophils, 72% lymphocytes and 2% monocytes. The urinalysis was acid with a specific gravity of 1.025. Albumin, sugar and acetone were negative. Microscopic examination showed 0-2 RBC/hpf and 1-4 WBC/hpf. Blood sugar 94 mgm.%, BUN 13 mgm.%. Routine agglutinins and heterophile antibody tests were negative. Serum sodium 139 mEq/l, potassium 4.6 mEq/l, potassium 4.6 mEq/l and CO₂ content 19.

A chest film was reported as normal and views of the long bones were read as negative for lead lines. Skull films were reported as being consistent with an increase in intracranial pressure.

A lumbar puncture on admission revealed bloody fluid with a closing pressure of 500 mm. H₂O. White cell count on the fluid was 140/mm³ with 84 neutrophils, 49 lymphocytes and 7 monocytes. The spinal fluid protein was 160 mgm.% and the sugar was 33 mgm.%. Cultures for bacteria and fungi were negative. India ink preparations were negative.

A tuberculin skin test was negative. A serum lead determination was 2 micrograms/100 ml.

The child continued to vomit after meals and ran a low grade fever. She required parenteral fluids and was started on treatment with intravenous chloramphenicol, Gantrisin® and penicillin.

Because of the question of a traumatic lumbar puncture on admission, this was repeated on 4/15/64 with similar results. It was again done on 4/20/64 at which times the opening pressure was 176 mm. H₂O. Protein 384 mgm.%, sugar 18 mgm.% and a cell count of 720 with 88% lymphocytes and 12% atypical cells resembling lymphoblasts. The peripheral blood was reviewed but no abnormal cells were seen.

A right ventriculogram done on 4/27/64 revealed a posterior fossa mass. She appeared to tolerate the procedure well but at 1:00 a.m. on 4/28/64 she developed generalized seizures, became comatose and died at 2:00 a.m.

An autopsy was performed.

Clinical Discussion

DR. WILLIAM E. LAUPUS:

We are dealing today with the problem of a two year old Negro female whose entire illness lasted approximately one month—two weeks prior to admission and 16 days in the hospital. Her illness started with fever, vomiting and anorexia, and at one time she had a stiff neck. Perhaps this was transient since the attending physician did not do a spinal puncture but instead treated her with penicillin and a sulfonamide. While on antimicrobial therapy her symptoms continued and she developed a fluctuating ataxia, which was greatest in the morning and lessened during the day.

I am going to try to develop this case as it presented to her physicians from the time of admission until certain laboratory studies dictated a change in the management.

On initial physical examination, the youngster was alert and did not appear par-

ticularly ill. She had no fever and her examination was normal except for slight unsteadiness. She did not have papilledema and apparently had no gross signs suggestive of secondary hydrocephalus. Because of the ataxia the house officer did a spinal puncture. When the cerebrospinal fluid findings were returned he had the problem of solving the nature of a disease state characterized by increased protein, reduced sugar, 180/mm³ white blood cells (60% polymorphonuclear leukocytes), and many red blood cells in the spinal fluid.

Because of the two week history, we can discard such acute phenomenon as poisoning which might be responsible for unsteady gait. We can eliminate acute cerebellar ataxia of childhood, which commonly follows infectious problems or follows no recognized antecedent disease. We can reduce the initial possibilities to a group of perhaps five. The first consideration is that of a partially suppressed meningitis. In this age group, Hemophilus influenzae, Type B, meningitis would be the most common one. Occasionally, on the E. G. Williams Service we see patients with a two week history of illness and spinal fluid abnormalities greater than this. A second possibility would be that great imitator of brain tumor, tuberculous meningitis. Unusual infections due to the cryptococcus or to the Listeria organisms are remote possibilities. With a history of a febrile illness early in the course, brain abscess must also be considered.

In the Richmond area, we are faced almost weekly, during the months of May, June, July and August with the differential diagnosis of lead encephalopathy versus other central nervous system diseases. Finally, the possibility of a brain tumor in the posterior fossa must be seriously entertained. The diagnosis must explain persistent vomiting, loss of appetite, neurological signs involving the cerebellum, increased protein in the spinal fluid and the marked decrease in the spinal fluid sugar.

Let us take each of the five possibilities

on the basis of what presented in the first three days of hospitalization. Obviously the house officer thought a partially suppressed meningitis of unknown cause was possible and so he administered the combination of sulfonamide, chloramphenicol, and penicillin. The findings in the spinal fluid were compatible with this diagnosis but the normal peripheral white count and differential were against it. Furthermore, meningitis fails to explain the ataxic gait. Next, consider brain abscesses. Their clinical course may be variable and correct diagnosis is often not easy. Most follow acute infections in the nasopharynx, sinuses and ears and result from either direct extension from a mastoiditis or from bacteremia. If the cerebellum is involved with a unilateral abscess, the clinical appearance is much like that of a unilateral cerebellar neoplasm with hypotonia, ataxia and coarse nystagmus, often toward the side of the lesion.

Tuberculous meningitis would seem to be ruled out on the basis of the negative family history and by the normal chest x-ray. Cerebellar signs are rarely seen with tuberculous meningitis.

What about lead intoxication? This youngster is in the right age group for this slow acting poison. Weakness, irritability, vomiting, anorexia, weight loss and so forth are commonly seen in children with lead encephalopathy. However, if we made this diagnosis we have to discount the normal blood and urine lead levels, and the normal roentgenograms. It must also be postulated that the cerebrospinal fluid tap was traumatic and I am not certain that such was the case.

The final group of diseases is that of tumors. Medulloblastoma is the most common and has a peak incidence at around the age of three. Usually patients with medulloblastoma appear quite sick when a sufficient increase in intracranial pressure to cause vomiting is present and I think this is against the diagnosis. Medulloblastoma may spread over the meninges and produce a picture

of chronic meningitis in which the spinal fluid has a marked increase in protein and in red cells. The spinal fluid sugar is low. The next most common tumor is a cerebellar astrocytoma. The peak age incidence is somewhat greater than this patient's age although this tumor has been found in very young infants. Astrocytomas tend to be insidiously progressive with intervals of comparative or complete remission. Such remissions and exacerbation were seen in today's patient so we shall have to consider this possibility seriously. Lateralizing signs when one lobe of the cerebellum is more involved than the other have been reported. Brain stem gliomas, the third most common group of tumors, are commonly associated with cranial nerve palsies which our patient did not have.

At this point it would be appropriate to see the x-rays from this patient.

DR. M. PINSON NEAL, JR.:

The films of the long bones reveal no suggestion of "lead line". The lateral film of the skull shows some separation of the coronal suture. The separation is a little more marked in the lambdoidal suture which would suggest a lesion in the posterior fossa. The A-P film shows slight separation of the sagittal suture. We should note that the dorsum of the sella turcica is intact and shows no evidence of erosion. In children, unfused sutures can spread like this in a very short interval of time. In an adult when the sutures are fused, it takes up to thirty days to show demineralization or erosion of the sella and changes of increased pressure.

DR. LAUPUS:

The second spinal tap produced fluid which was similar to that from the first. Somewhat later a third spinal fluid tap was done. The findings on this particular tap are more puzzling: the pressure is normal, no red blood cells are present, the sugar is lower, the cell count is higher and most of the cells are lymphocytes. This fluid was

also examined for malignant cells and 12% atypical cells resembling lymphoblasts were described. The likelihood that a malignant tumor was shedding cells into the cerebrospinal fluid seemed much more likely after this examination. Neoplastic cells are seen in the spinal fluid in a variety of central nervous system tumors including medulloblastomas and astrocytomas when secondary

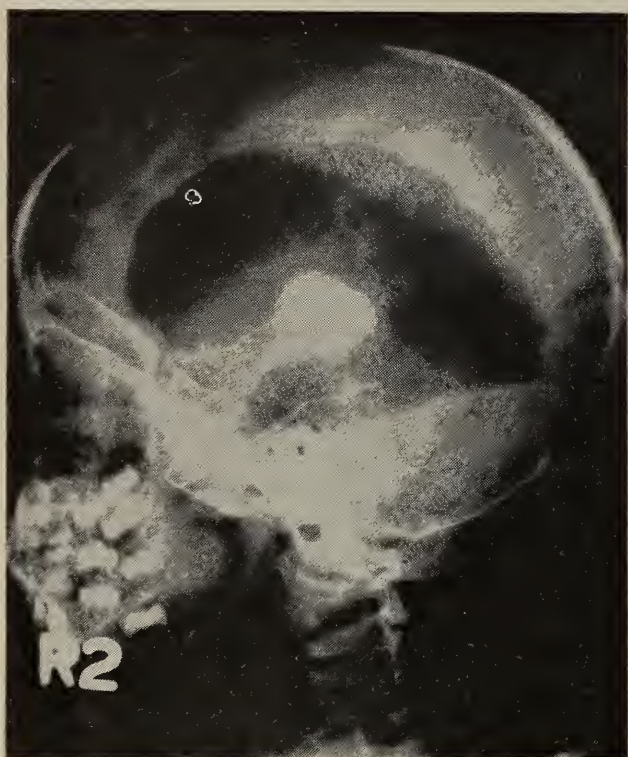


Fig. 1. Ventriculogram: Notice separation of skull sutures, "beaten copper" effect on cranial bones, marked dilatation of lateral and third ventricles. There is no filling of the fourth ventricle or of basal cisterns.

seeding of the meninges and of the subarachnoid space has taken place.

A ventriculogram was done on this patient. Ventriculography in patients with posterior fossa tumors and in other conditions associated with a marked increase in cerebrospinal fluid pressure may be hazardous. Some of these patients have stormy courses following the procedure and some of them die. The decision to proceed with ventriculography, I presume, was based on the fact that the cerebrospinal fluid pressure was not very elevated.

Of the possibilities offered earlier, medulloblastoma alone, explains all the features

seen in this patient. Presumably the tumor was not localized to the region of the fourth ventricle but was seeded throughout the meninges. Cases have been described in which the meninges were surrounded entirely by a thin layer of cells derived from the tumor. It would be helpful at this time to review the ventriculogram.

DR. NEAL:

There has been a slight increase in the spread of the coronal suture. (Fig. 1) In children the degree of suture spread is dependent upon the magnitude of the pressure. The caliber of the third ventricle indicates distinct hydrocephalus involving the lateral ventricles. A film utilizing gravity shows the air pool in the posterior aspect of the lateral ventricle. There is a kinked and distorted third ventricle and little air in the fourth ventricle. The last film again shows the dilated lateral ventricle but the fourth ventricle is pushed markedly to one side. The older textbooks used to tell us that when the fourth ventricle was displaced to one side an astrocytoma was to be suspected. We were taught that a medulloblastoma encroached from behind and pushed the fourth ventricle forward. However, we have learned that this is not altogether true and the clinical history is against the diagnosis of a lateralizing astrocytoma.

DR. JOHN H. MOON:

What is the diagnostic importance of the coronal suture opening in contrast to the lambdoidal with posterior fossa tumors?

DR. NEAL:

That happens because the point of our obstruction is in the posterior fossa and therefore, the obstruction is transmitted to the lateral ventricles which are more in the fronto-parietal area; and therefore, the increased pressure will be reflected there in the third and lateral ventricles rather than the fourth and, therefore, modifying the lambdoidal suture posteriorly.

DR. WILLIAM F. COLLINS, JR.:

Our differential diagnosis on neurological surgery was the same that Dr. Laupus has just presented to you; that is, infection versus a mass lesion with or without infection. The air study demonstrated the mass lesion, and we planned to explore the tumor within the next few days. The clinical course of the child could be utilized to support the proposition that an air study which shows disruption of normal flow of the cerebrospinal fluid should be followed by removal of the obstructing lesion. This is an axiom in neurosurgery. My decision not to follow this axiom is based on the experience that children with large ventricles and increased intracranial pressure from an obstructive lesion of the posterior fossa do better with decompression for a day or two before performing the surgery. The only exception to this in my experience was a lesion which had extended into and around the brain stem, into the basal cisterns and was highly malignant.

In view of the marked ventricular dilatation and the shifted fourth ventricle, the diagnosis of mass lesion of the posterior fossa is certain. The spinal fluid findings—that is, the high protein and leukocytosis—suggest invasion of the subarachnoid space and either necrosis in a portion of the tumor or widespread dissemination of the tumor. The sudden demise following air study suggests to me that it is a highly malignant tumor. The most frequent tumor in this area would be a medulloblastoma but a meningeal sarcoma or ependymoma can present the same picture. The cause of death is difficult to determine from the protocol, but fatal compression of the brain stem would appear likely. The mechanism would probably be a further insult to a compromised brain stem by the sudden rise in an already elevated intracranial pressure. The sudden increase in intracranial pressure was secondary to the convulsion.

WARD DIAGNOSIS:

1. *Posterior fossa tumor.*
2. *?Partially treated meningitis.*
3. *?Cryptococcus (Torula) meningitis.*

DR. WILLIAM E. LAUPUS'S DIAGNOSIS:

1. *Medulloblastoma*

Pathological Discussion

DR. JULIO H. GARCIA:

The immediate cause of death was probably acute brain tissue herniation and compression of the brain stem. This could occur purely as a result of the basic disease process. However, ventriculography is not without its hazards and sudden brain stem compression is a known complication of the procedure.

The significant autopsy findings were confined to the central nervous system. The brain was enlarged; the leptomeninges over the convexity of the cerebral hemispheres were free of any inflammatory or neoplastic exudate, on naked-eye examination. On the ventral surface, however, the meninges could be best described as having the appearance of "cake-icing". This was particularly true over the ventral surface of the cerebellum, around the brain stem, and in the area of the interpeduncular fossa. One additional finding was the protrusion of the lamina terminalis and herniation of the uncus, both of which are indicative of the presence of hydrocephalus.

On microscopic examination of the cerebellum, the subarachnoid space was occupied by a vast number of cells, most of which were undifferentiated, small, and had a relatively large, elongated nucleus and tapered cytoplasm, thus having a carrot-like shape. Mitoses were numerous. There was no stroma and few blood vessels were present.

Sections of the spinal cord revealed filling of the subarachnoid space by the same type of neoplastic cells. (Fig. 2, inset) These infiltrated along the nerve roots, particularly those of the lumbar area. I think that this

could offer a valid explanation for the abdominal pain. The infiltration went beyond the leptomeninges and into the extradural dorsal root ganglia.

Dr. dos Santos will comment on the cells seen in the cerebrospinal fluid.

DR. JOHN G. DOS SANTOS:

This case came to my attention as a clinical pathologist at the time of the third spinal tap, because it is our policy to confirm the differential cell count done in the counting chamber by a differential done on the smear. The minimum we set is 500 cells.

sugar I could consider only leukemic infiltrate of the cord or a tumor.

DR. GARCIA:

Within the cerebellum was a midline mass extending mainly to the right. This mass extended and compressed the cerebellar tissue and occupied completely the fourth ventricle. (Fig. 3) The cytology of this mass showed the same cell type as in the meningeal infiltrate. The use of histochemical stains aided in ruling out meningeal sarcoma and/or leukemia, both of which could be made up of similar looking cells. On the

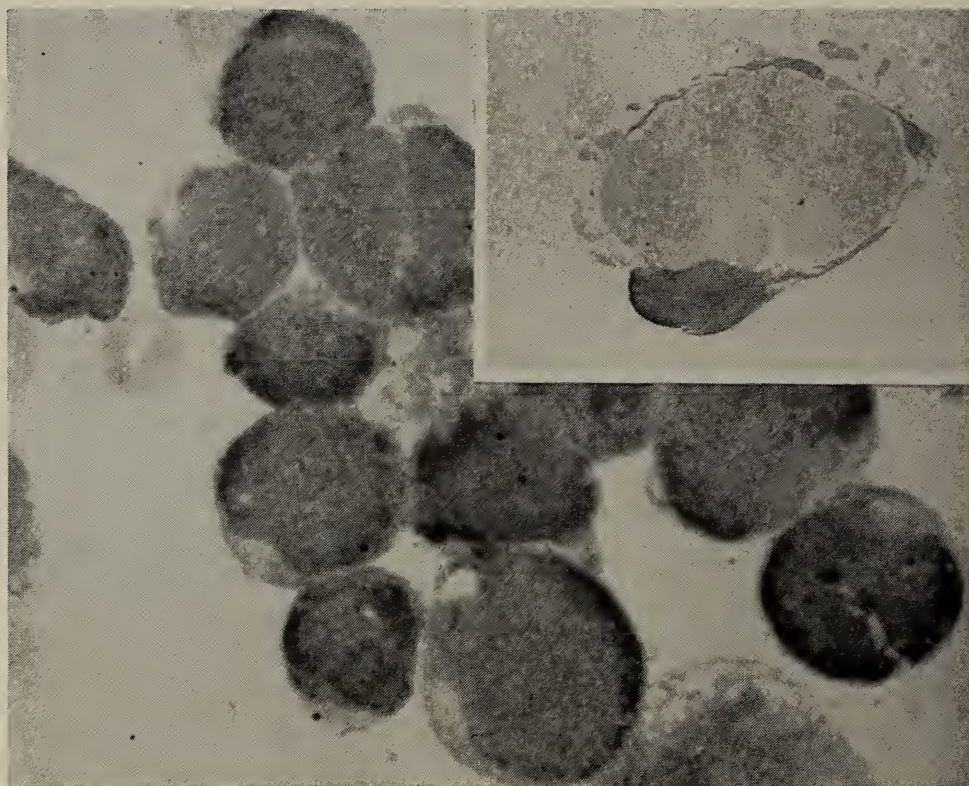


Fig. 2. These large, "blastic", neoplastic cells were seen in examination of the spinal fluid (magnification 1000 X). In inset of spinal cord note tumor implants (dark areas) on the surface (magnification from 3 X).

The differential done in the counting chamber was the one reported of 88% lymphocytes and 12% cells resembling lymphoblasts. My own report done on this same fluid was as follows: "1% neutrophils, 3% lymphocytes, 96% large basophilic cells with very fine chromatin and prominent nucleoli which are blast-like cells." (Fig. 2) I did not call them lymphoblasts. I was told the sugar in the spinal fluid was 18. From the spinal fluid cytology and the low spinal fluid

basis of the appearance and location of the cerebellar mass as well as the individual cell features, we arrived at the diagnosis of midline cerebellar medulloblastoma with extension along the subarachnoid space.

DR. GLADSTONE E. SMITH:

Would you comment on the cell of origin of the medulloblastoma and also why this tumor usually seems to arise from or near the midline?

DR. GARCIA:

Many people have commented on the morphological similarity of the cells in the external granule-cell layer of the cerebellum of normal infants and fetuses to the cells of the medulloblastoma. It has been assumed that it is from these cells that the medulloblastoma originates. The problem still remains to explain why the tumor is prac-

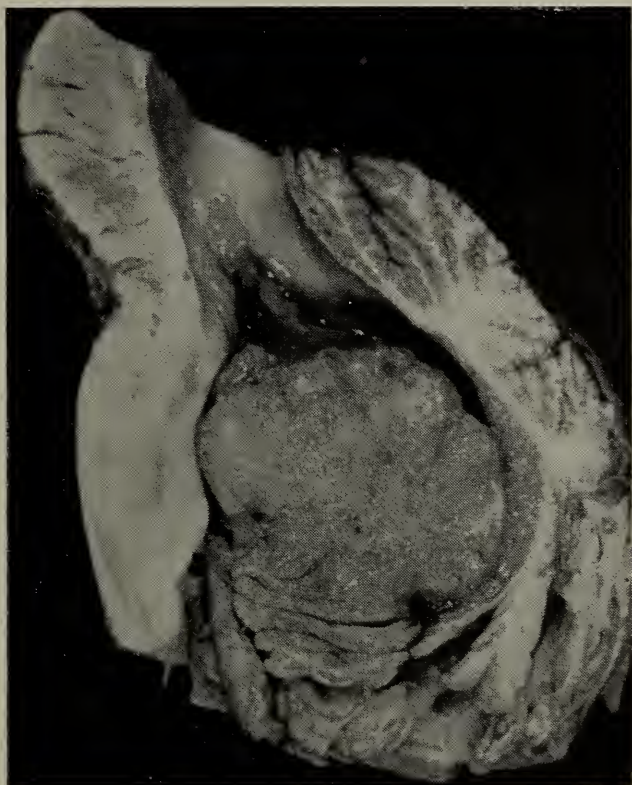


Fig. 3. Sagittal section through brain stem showing the tumor mass arising from the cerebellum in the fourth ventricle.

tically always in the midline of the cerebellum when the granule-cell layer extends over the entire cerebellar cortex.

Kernohan and Raaf¹ described the presence of "germinal buds" in the midline of the cerebellar vermis. They postulated in 1939 that the persistence of the germinal bud (if this were really the origin of the tumor) could account for the presence of medulloblastoma exclusively in this location. I have had occasion to examine approximately 150 cerebellums of patients ranging

from the newborn to age 90 years. About 60% of them had the germinal bud in all age groups. Therefore one would have to think that some other factor, aside from the persistence of the bud, is needed to produce the tumor.

In the past 10 years there have been seven cases of medulloblastoma that were surgically treated at this institution. The oldest was 23 years old at the time of surgery and the youngest was 19 months. This tumor has been reported in infants but a few weeks old, thus suggesting a congenital origin.

A study from another institution reported 437 cases of intracranial tumors in childhood, 278 (65%) of which were in the posterior fossa. Astrocytoma was the most frequent at 33.3%. A very close second was the medulloblastoma with 29.9%.

Finally I would like to call your attention to two references worthy of your review. One is the classical paper by Bailey and Cushing² in which the designation of medulloblastoma was introduced in the year of 1925. The other is an extensive review of this neoplasm by Crew³ entitled "Medulloblastoma."

PATHOLOGICAL DIAGNOSIS:

1. *MEDULLOBLASTOMA of the cerebellum with extension along the spinal cord.*
2. *Acute brain stem compression*

REFERENCES

1. Bailey, P. and Cushing, H.: Medulloblastoma Cerebelli: A Common Type of Midcerebellar Glioma of Childhood. Arch. Neurol. & Psychiat. 14: 192-224, 1925.
2. Raaf, J. and Kernohan, J.: Relation of Abnormal Collection of Cells in the Posterior Medullary Velum to the Origin of Medulloblastoma. Arch. Neurol. & Psychiat. 52: 163-69, 1944.
3. Crew, Benjamin L., Jr.: Medulloblastoma. Charles C. Thomas, Pub., Springfield, Ill., 1958.

Isozymes of the Lactic Dehydrogenase

Lactic dehydrogenase (LDH) is a DPN-dependent glycolytic enzyme which catalyzes the reversible oxidation of lactic acid to pyruvic acid. It was crystalized by Straub in 1940, however several years later Meister described electrophoretic heterogeneity of the crystalized beef heart LDH.

In 1957, this was confirmed by other investigators using human serum. Within recent years "the different electrophoretic mobilities" of LDH have been extensively investigated in the serum, body fluid, and tissue extracts from humans and animals. The results show that there is not one but five electrophoretically distinct forms of LDH with the same substrate specificity. These forms were termed isozymes by Markert and Moller (1959); the fastest moving isozyme being designated as isozyme 1, the remaining according to their mobility, isozymes 2, 3, 4, and 5*.

The pattern of the LDH isozyme is species and organ specific and at present the cellular and subcellular specificity is under intensive study.

The heart, kidney, and brain are rich in the fastest moving band LDH₁, while the liver, muscle, and skin LDH is dominated by the slowest moving fraction LDH₅.

Pfleiderer and Wachsmuth correlated the LDH isozyme pattern with the predominant metabolic characteristics of the tissue. Thus aerobically active tissues have their main LDH activity in the form of LDH₁, while those tissues capable of anaerobic metabolism have theirs in the form of LDH₅. In

malignant tissue, a shift from the aerobic isozyme pattern toward anaerobic type (slow moving band) has been found.

The fact that extracts of different tissues show characteristic LDH isozyme patterns has drawn widespread interest from clinicians and diagnostic laboratories. In pathological conditions, the cells of affected organs are expected to release some or all of their LDH isozymes. An elevation of individual isozymes of the serum corresponding to the isozyme pattern of diseased organs therefore occurs. For example, elevation of serum isozyme 1 following myocardial infarction is due to release of large amounts of isozyme 1 (major component of myocardial LDH) by damaged myocardium into the circulation. The above example leaves no doubt that much more information could be obtained by measurement of single isozyme activity than by measurement of total LDH activity.

The simplification and improvement of techniques for measuring LDH isozymes certainly should assist in solving difficult diagnostic problems. One should bear in mind, however, that the serum LDH isozyme pattern is not specific for many diseases even though tissues such as heart, liver, and skeletal muscle contain predominately only one or two isozymes. Other tissues such as the spleen and lung have no distinctly predominant isozyme and hence an estimation of their activity is of little diagnostic assistance at present.

Z. S. ISLAMI, M.D.

*Unfortunately nomenclature of isozymes needs standardization since some authors refer to the fastest moving band of LDH as isozyme 5.

*Division of Clinical Pathology
Medical College of Virginia
Richmond, Virginia*

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Nutrition Challenges in Medicine

Nutrition as a science is young, though eating, obviously, has been enjoyed since the beginning of time. Only during the past generation has nutrition evolved sufficiently from biochemistry and physiology to be classed as a science.

Like other fields of health and medicine, nutritional concepts have changed appreciably since the time most physicians went to medical school. In fact, change is so rapid in this field that even the nutrition scientists are taxed to keep up.

Dr. Frederick J. Stare, Professor of Nutrition at the Harvard School of Public Health, lists the following targets which present challenges for medicine, both public and private—challenges in which nutrition plays an important role: "Less cardiovascular disease, less tooth decay, fewer kidney and bladder stones, less iron deficiency anemia, better control of diabetes, quicker recovery from acute diseases, partner of physiotherapy in rehabilitation, key to some of the hereditary or inborn errors of metabolism, an improvement in fitness and general health, even in what is already considered good health, and a lessening of impact of food faddism and nutrition quackery."

Recognizing its responsibility in this important public health field, and in order to meet the challenges listed above, the State Health Department added the first nutritionist to its staff in 1941. Today there are three nutrition consultants working for the State Department of Health.

Since weight control is one of the essentials in bringing about less cardiovascular disease and less middle-age diabetes, the Nutrition Section in recent years initiated a state-wide weight control program in cooperation with local health departments and

the Agricultural Extension Service, Virginia Polytechnic Institute.

Public Health Nutritionists are working closely with the Bureau of Chronic Disease Control in its efforts to bring about better control over diabetes. Private physicians who are treating diabetes may request that a public health nurse visit the home to assist the patient in carrying out his orders with regard to dietary regimen.

As a result of the program of Home Nursing for the Chronically Ill, many physicians have seen fit to take selected patients out of the hospital since care may be carried on at home under the supervision of the private physician, working with the public health nurse. Nutrition and dietary control will continue to play an important role in the physician-patient-nurse concept of team action in treating the chronically ill.

The basic nutritional needs of the elderly are not appreciably different from those of other adults, but the elderly frequently have nutritional problems. More commonly these problems are caused by indifference to eating resulting in poor dietary habits, lack of money to purchase an adequate diet, poor dentures, improper knowledge of what constitutes an adequate diet, and the nutritional misinformation given to them by the hucksters of nutritional quackery. The public health nutrition consultants working with welfare and other official and voluntary agencies have been very active in helping to overcome these geriatric problems and combating misinformation.

Hereditary inborn errors of metabolism also present nutritional challenges to medical science the magnitude of which is still unknown. The most striking example is probably phenylketonuria. Presently, there are thirty cases of PKU on the State Health

Department's register, each requiring the services and long-term supervision of public health nutrition consultants working with the private physician and public health nurse.

There are other metabolic errors in which the health department is interested. Work is in progress to perfect simple tests that may be used to screen large numbers of infants for certain metabolic error diseases such as galactosemia, maple syrup urine disease and histidinemia. The nutritionist using the most up-to-date scientific data will of necessity have a key role to play in working with the medical and allied professions in carrying out individualized nutrition therapy and dietary control measures.

Lastly, no discussion of nutritional challenges could be considered complete without mentioning the responsibility of physicians and public health workers in protecting society from the buffoonery of the food quacks—those who put unusual health and

healing claims on natural foods, food grown in organically fertilized soil (exclusively), and sea salts; and who run down the nutritive qualities of most of the common foods available in any grocery store.

In these days with the advances in control of many of the infectious diseases, nutrition is becoming relatively more important to our health.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	July 1965	July 1964	Jan- July 1965	Jan.- July 1964
Brucellosis -----	3	4	6	12
Diphtheria -----	0	0	0	0
Hepatitis -----	32	48	477	347
Measles -----	149	404	4270	13062
Meningococcal Meningitis ---	4	5	50	42
Meningitis (Aseptic) -----	1	1	6	8
Poliomyelitis -----	0	0	0	0
Rabies (in Animals) -----	79	10	266	201
Rocky Mt. Spotted Fever ----	10	9	24	20
Streptococcal Infections ----	519	516	7670	7158
Tularemia -----	1	0	5	4
Typhoid Fever -----	0	1	2	10

Lincoln Autopsy

Controversy continues about the details of the autopsy on Abraham Lincoln. In the August 2nd Journal of the American Medical Association, a recently discovered autopsy report by Lincoln's personal physician is reviewed by John K. Lattimer, M.D., of Columbia University, New York.

It had been hoped that the report by Dr. Robert King Stone would resolve the question of Lincoln's fatal wound. Some observers at the time swore the bullet fired by John Wilkes Booth entered on the left side of the head; others said it was on the right side.

Dr. Lattimer's conclusion, after reviewing Dr. Stone's handwritten report and a diagram: the details of the wound still aren't clear. Dr. Stone's notes clearly state that the bullet "lodged in cerebral matter . . . on the left side." His diagram, however, doesn't make this clear. Other doctors at the time

just as emphatically stated that the President's wound was on the right side of his head.

How could medical authorities disagree on such a fundamental point? Dr. Lattimer supplies an answer:

"It must be remembered that all of the doctors who made these statements had been awake continuously for at least 30 hours, under the most severe emotional stress, by the time they attended the autopsy. There was great confusion as to how the bullet hole came to be in the left side of Mr. Lincoln's head, since Booth had approached him from his (Lincoln's) right side. Against this background there is little wonder that conflicting testimony appeared."

Dr. Stone's handwritten autopsy report is in the custody of the New York State Historical Association, Cooperstown, N. Y.

Mental Health

Mental Patients in Nursing Homes

Until recently, the extensive use of a licensed nursing home for mental patients was technically impossible. The State Department of Health regulations governing nursing homes excluded mentally ill patients. However, last year this regulation was changed so that unless the mentally ill patient is violent or his behavior disturbing to other patients, he can remain in the nursing home.

This change in the State Health Department's regulations only legalized what was already a widespread practice. A great number of patients then in nursing homes and now in nursing homes are actually mentally ill insofar as their mental capacities have been dulled to the extent that their competence to handle their own affairs has been damaged.

However, this change in the regulations opens a door to a possible partial solution of the State Hospital's growing geriatric problem. Over a period of years the percentage of patients 65 and over in our hospitals has steadily grown. It now approaches a third of our total hospital population. Virginia is no different from the other states. All the states have a growing geriatric problem in their State Hospitals. Several states have attempted a solution. For example, in Missouri, the State Mental Health Authority has a designated sum of money appropriated by the legislature for the purpose of boarding out mental patients in approved nursing homes. These homes have made contracts with the State Mental Hospitals to take selected patients at an agreed rate of pay. The Veterans Administration has a similar problem and is attempting to arrange for vet-

HIRAM W. DAVIS, M.D.

erans to be placed in nursing homes.

There are arguments pro and con as to whether relatively quiet geriatric mental patients should be in nursing homes or in State operated mental hospitals.

The case of our present program of caring for geriatrically mentally disabled in our State Hospitals is presented as follows:

First and most convincing is that in every State Hospital, but seldom in a nursing home, there are provisions for occupational and recreational therapy and other kinds of diversion. These are the principal weapons in fighting the mental deterioration of old age. Old people should be almost continuously occupied either in a gainful pursuit or in some sort of recreational or entertaining activity. Unless they are distracted from their thoughts, they tend to fall into painful ruminations and mental depression and become immobilized or grow agitated.

Second, there is support from the spiritual side. All of our hospitals have a chaplain; church services are conducted regularly and pastoral rounds are made on the wards. This means a great deal to the elderly patient.

Third, there is immediate emergency medical attention without the necessity of transfer from one institution or agency or from one place to another.

Finally, and very importantly, there are psychiatrically trained nursing personnel in our mental hospitals. Seldom are such people found in a nursing home.

For example, an elderly woman patient at Eastern State Hospital a number of years ago was very quiet, sociable and friendly and did not seem to need to be in a mental hospital. Well-meaning relatives took her out of the hospital to a nursing home. Within a few days she became apprehensive, cantankerous, and argumentative, eventually striking one of the nursing aides with a cane. This resulted in her return to the hospital

DAVIS, HIRAM, W., M.D., *Commissioner, Department of Mental Hygiene and Hospitals.*

Excerpts from an address to the Tenth Annual Virginia Nursing Home Institute in Charlottesville, July, 1965.

where she immediately settled back into the familiar pattern of her former pleasant behavior. There could be several explanations for this but the staff at the hospital thought that it was because the nursing service personnel at the State Hospital were more tolerant of mildly deviant behavior, were trained in how to say the right things at the right time to such patients and the art of gentle persuasion.

If we take these statements one by one, they could be suggestions for the improvement of nursing homes. For example, nursing homes should have more occupational, recreational and entertainment activities. TV is not enough. In fact, these activities are almost mandatory if the homes are to care for the mentally ill geriatric case. Also, they should insure frequent, routine religious activities.

In the matter of training nursing home personnel in psychiatric principles of nursing, much could be done. Indeed, if there are to be more mental patients in nursing homes, psychiatric orientation for nursing aides should be required for licensure.

The arguments for nursing homes as compared to the State Hospitals are as follows: First, we hear that there is a more homelike atmosphere, that the bedrooms look like bedrooms rather than wards, that there are potted plants and canaries, gold fish, possibly even other pets. However, most of our State Hospitals are rapidly transforming their wardlike atmospheres to a more homelike appearance with curtains on the windows, television, and sitting rooms with flowers.

A second argument is that the patients are nearer their family in the community nursing home than at a distant State Hospital. This argument gradually is losing its force. With the rapid development of super highways and better public transportation, it no longer means a long trip to visit a relative.

Of course, it is still true that there is less stigma for a person to be in a nursing home

than in a State Mental Hospital but such stigma, we believe, is gradually disappearing.

What are the possible future trends? There is much talk today of "mental health centers" replacing our State Hospitals. The mental health center concept is that a continuum of care should be provided such as preventive precare for out-patients with mild illness. Then if the same case develops an illness which needs hospitalization, they can move immediately into an in-patient status without transfer of records or change of doctors. Finally, after discharge, the patient can still be cared for by the same center (again without any referral or change of records and possibly being taken care of by the same staff). These mental health centers are supposed to provide comprehensive services including day care, night care, emergency care, both in-patient and out-patient care. As psychiatrists have discussed these centers and their possible operation, and have looked at those which are already in existence, it is quite apparent that they will not be organized to take care of chronic patients. The chronic patient will, after a number of days or months, necessarily have to be transferred to another type of program. Otherwise, the acute, intensive treatment service will become overwhelmed with long term cases and not be able to perform its function.

This would seem to indicate that the geriatric patient, who is certainly a chronic case, will eventually gravitate either to a nursing home or to a State Mental Hospital. If mental health centers develop in the way that many people hope they will do, our State Mental Hospitals will indeed become "homes for the incurable". Thus, State Mental Hospital careers will be less attractive work for doctors, nurses and other staff.

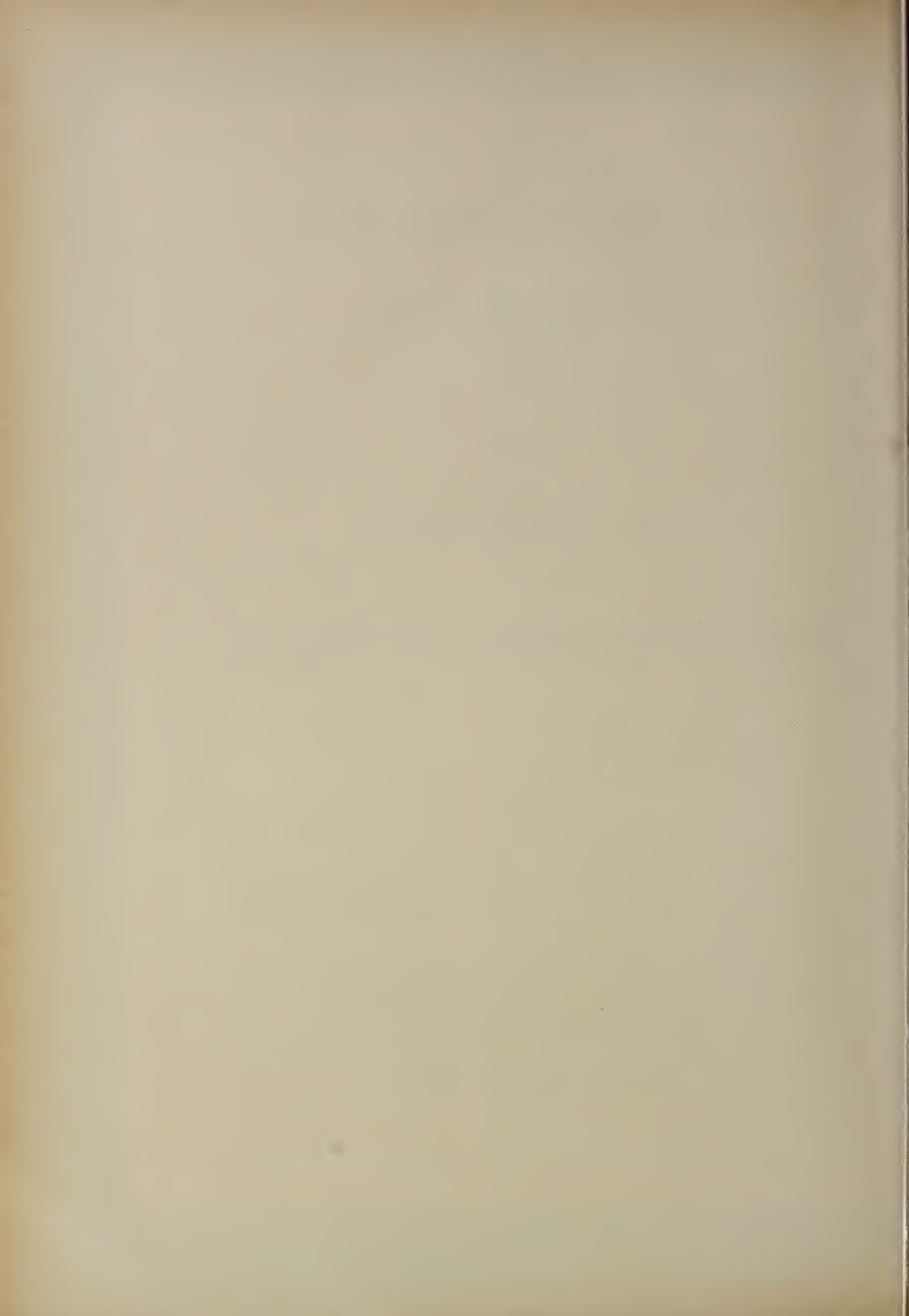
If State Hospitals become unattractive compared to what they now are, it will be better for the State Hospital patients to be in nursing homes. However, at the present time, the arguments seem to be weighted in favor of the State Hospital.

PRELIMINARY
PROGRAM

118th MEETING

The Medical Society of Virginia

The John Marshall Hotel
Richmond, Virginia
October 10-13, 1965



PRELIMINARY PROGRAM

118TH MEETING

THE MEDICAL SOCIETY OF VIRGINIA

HOTEL JOHN MARSHALL
RICHMOND, VIRGINIA
OCTOBER 10-13, 1965

Sunday, October 10

10:00 A.M.

COUNCIL
Washington Room

2:00 P.M.

HOUSE OF DELEGATES
Exhibit Hall "A"

Monday Morning, October 11

9:00 A.M.

Exhibit Hall "A"

Welcome and Preliminary Announcements—Hunter
H. McGuire, Jr., M.D., Chairman, Local Com-
mittee on Arrangements
Memorial Service

Scientific Program

Harry M. Frieden, M.D., Norfolk, Presiding

9:05 A.M.—*Invited Speaker*—William Parsons,
M.D., Professor and Chairman, Department of
Medicine, University of Virginia School of Medi-
cine, Charlottesville—An East African Medical
Safari

9:35 A.M.—*Invited Speaker*—W. T. Thompson,
M.D., Professor and Chairman, Department of
Medicine, Medical College of Virginia, Richmond
—RATIONAL BASIS FOR OXYGEN THERAPY

10:05 A.M.—*Invited Speaker*—William H. Muller,
Jr., M.D., Professor and Chairman, Department
of Surgery, University of Virginia School of Medi-
cine, Charlottesville—SURGERY OF VALVULAR DIS-
EASES

10:35 A.M.—*Invited Speaker*—David M. Hume,
M.D., Professor and Chairman, Department of
Surgery, Medical College of Virginia, Richmond—
PRESENT STATUS OF SURGERY OF THE LIVER

11:05 A.M.—INTERMISSION TO VISIT EXHIBITS

11:30 A.M.—*Guest Speaker*—Richard R. Lower,
M.D., Associate Professor of Surgery and Chair-
man, Division Thoracic and Cardiac Surgery,
Medical College of Virginia, Richmond—HEART
TRANSPLANT

12:00 Noon—*Guest Speaker*, Ernest B. Howard,
Assistant Executive Vice-President, American
Medical Association, Chicago—WHAT'S AHEAD
FOR MEDICINE

Monday Afternoon, October 11

See special section on luncheons, committee meetings
and special events

3:00 P.M.

Reference Committee #1
Patrick Henry Room

Reference Committee #2
Washington Room

Tuesday Morning, October 12

9:00 A.M.

Exhibit Hall "A"

Boyd H. Payne, M.D., Staunton, Presiding

SYMPOSIUM ON VARIOUS PHASES OF PEDIATRICS

This symposium, and the one to be presented in
the afternoon, were planned with the cooperation
of the Virginia Academy of General Practice. This
program is acceptable for six accredited hours by
the American Academy of General Practice. (A
total of 13 accredited hours have been authorized
for the entire Scientific Program).

9:00 A.M.—*Invited Speaker*—William E. Laupus, M.D., Professor and Chairman, Department of Pediatrics, Medical College of Virginia, Richmond—HOW TO TELL A SICK NEWBORN

9:20 A.M.—*Invited Speaker*—William G. Thurman, M.D., Professor and Chairman, Department of Pediatrics, University of Virginia School of Medicine, Charlottesville—RECENT DEVELOPMENTS IN CANCER CHEMOTHERAPY OF CHILDREN

9:40 A.M.—*Invited Speaker*—Reuben B. Young, M.D., Richmond—HYPOGLYCEMIA IN INFANTS AND CHILDREN

10:00 A.M.—*Invited Speaker*—Arnold M. Salzb-
berg, M.D., Richmond—INTRINSIC SMALL BOWEL
OBSTRUCTION IN THE NEWBORN

10:20 A.M.—*Invited Speaker*—William S. Houck,
Jr., M.D., Richmond—CONGENITAL ESOPHAGEAL
ATRESIA WITH ESOPHAGEAL FISTULAE

10:40 A.M.—Panel discussion—featuring written
questions from the floor. Owen Gwathmey, M.D.,
Richmond, Moderator

11:00 A.M.—INTERMISSION TO VISIT EXHIBITS

11:30 A.M.—*Invited Speaker*—Calvin M. Kunin,
M.D., Assistant Professor of Medicine, University
of Virginia School of Medicine, Charlottesville—
NEWER DEVELOPMENTS IN THE CARE OF IN-
DWELLING CATHETERS

12:00 Noon—*Invited Speaker*—John Utz, M.D.,
Professor of Medicine, Medical College of Vir-
ginia, Richmond—NEWER ANTIMICROBIAL DRUGS

Tuesday Afternoon, October 12

2:00 P.M.

Exhibit Hall "A"

Thomas S. Edwards, M.D., Charlottesville, Presiding

SYMPOSIUM ON CRYOSURGERY

2:00 P.M.—*Invited Speaker*—William F. Collins,
M.D., Professor and Chairman, Department of
Neurosurgery, Medical College of Virginia, Rich-
mond—INTRODUCTION TO CRYOSURGERY

Invited Speaker—Robert P. Singer, M.D., Rich-
mond—CRYOTHALAMOTOMY

Invited Speaker—John A. Gill, M.D., Richmond
—CRYOTONSILLECTOMY

Invited Speaker—Louis W. Conway, M.D., Rich-
mond—CRYOHYPHOPHYSECTOMY

Guest Speaker—Maitland Baldwin, M.D., Chief
and Clinical Director, Section Neurosurgery, Na-
tional Institutes of Health, and Clinical Profes-
sor, Georgetown University School of Medicine,
Bethesda, Maryland—HYPOTHERMIA IN SURGICAL
PRACTICE

3:00 P.M.—Panel discussion—featuring written
questions from the floor. William F. Collins,
M.D., Richmond, Moderator

Wednesday Morning, October 13

9:00 A.M.

Marshall Room

Harry M. Frieden, M.D., Norfolk, Presiding

9:00 A.M.—ACHING PAIN OF ESOPHAGITIS—ITS
DIAGNOSIS AND MANAGEMENT—Thomas D. Da-
vis, Jr., M.D., and T. Dewey Davis, M.D.—
Richmond

Burning epigastric distress and heart burn are easily
recognizable symptoms of hiatus hernia and esophagi-
tis. Not infrequently patients describe aching, mid-
chest discomfort which is difficult to differentiate from
angina. The frequent failure of x-ray studies to dem-
onstrate the presence of a hiatus hernia has led to the
introduction of newer diagnostic tools. The importance
and ease of the demonstration of pathology of the
esophagus as the etiology of chest pain will be dis-
cussed and a program of satisfactory medical manage-
ment outlined.

9:15 A.M.—COLON AND RECTAL INJURIES IN
GYNECOLOGICAL SURGERY—Fred T. Given, M.D.,
Levi Old, Jr., M.D., and Willette L. LeHew,
M.D., Norfolk

Colon and rectal injuries occurring at the time of gyne-
cological surgery are classified into those above the
peritoneal reflection and those below the peritoneal
reflection. Aids in prevention of these injuries and
methods of management are discussed. A review of
these large bowel injuries in local hospitals is pre-
sented. Conclusions are drawn as to the most effica-
cious modes of management of colon and rectal in-
juries incurred in gynecological surgical procedures.

9:30 A.M.—OFFICE MANAGEMENT OF BURSTITIS
AND TENDONITIS AND ASSOCIATED CONDITIONS—
Earnest B. Carpenter, M.D., Richmond

The management of bursitis both acute and chronic,
tendonitis, tenosynovitis and related conditions are ex-
tremely common and can be managed in the office of
the general practitioner or other physician seeing
patients with this condition. In general, management
consists of intra-articular injections of steroid solu-
tions either into the involved bursa or tendon, plus
the use of heat or cold at home, plus the administration

of anti-inflammatory medication. Early diagnosis and treatment of these conditions is necessary to accomplish early recovery and to prevent chronic manifestations of these conditions.

9:45 A.M.—PRESENT STATUS OF ANTIHYPERTENSIVE THERAPY AND ANESTHESIA—George H. M. Rector, M.D., Norfolk

The pharmacologic action of Reserpine that depletes the tissue stores of catecholamines, coupled with early reports of hypotension in patients having surgery while on these drugs, has been re-assessed in light of recent well controlled studies. The pharmacology of the anti-hypertensives is briefly reviewed, as are the controlled studies of anesthetics administered to groups both on and not on therapy.

10:00 A.M.—OCCIPITAL NEURECTOMY IN THE TREATMENT OF OCCIPITAL NEURALGIA—Charles E. Troland, M.D., and Hyman Stromberg, M.D., Richmond

Seventy-four cases of occipital neuralgia have been operated upon during the past four years. In forty cases there was a definite history of trauma, and in thirty-four cases there was no known definite trauma. The ages of the patients varied from nineteen to seventy-two years. Results of the procedure were very good in the vast majority of the patients. It is felt that in carefully selected cases this procedure offers very definite relief from sometimes disabling pain.

10:15 A.M.—SURGICAL MANAGEMENT OF VERTIGO OF PERIPHERAL ORIGIN DUE TO MENIERE'S DISEASE AND OTHER CAUSES—G. S. Fitz-Hugh, M.D., and C. S. Bagley, M.D., Charlottesville

Much has been written about the diagnosis and medical management of vertigo but comparatively little with regard to surgical intervention per se. The indications, contra-indications and descriptions of the surgical technique for alleviation of vertigo will be presented. Efforts will be made to encompass only the practical aspects of these treatment modalities of interest to the general physician, omitting the more technical details which are necessary for only the specialists in the performance of the various procedures.

10:30 A.M.—INTERMISSION TO VISIT EXHIBITS

10:45 A.M.—TREATMENT OF THE PAINFUL HIP—Thomas E. Strong, Jr., M.D., Roanoke

The painful hip is probably the most disabling joint condition treated by the orthopaedic surgeon. It occurs in all age groups rising from a variety of causes. This includes congenital dysplasia, Legg-Perthes disease,

infectious processes, injury, and arthritic disease which ultimately result in incongruity of the joint, loss of motion and pain. Reconstructive procedures such as the hanging hip, osteotomy, and arthroplasty, their indications, and results will be presented and discussed.

11:00 A.M.—MANAGEMENT OF THE PREGNANT FEMALE WITH MYOCARDIAL INFARCTION—Randolph M. Jackson, M.D., Milton Ende, M.D., and Frank R. Payne, Jr., M.D., Petersburg

A review of the literature reveals only seven proven cases of pregnancy and delivery following coronary occlusion with infarction. In none of these was a method of anesthesia mentioned. A case is presented of a thirty-eight year old female who, while on estrogens and during a fertility study, sustained a severe myocardial infarction. Approximately eighteen months later she became pregnant and delivered at term a living child. The prepartum, partum and postpartum, medical, anesthetic and obstetrical management is discussed.

11:15 A.M.—ANALYSIS OF PREVENTABLE MATERNAL DEATHS IN VIRGINIA—Mason C. Andrews, M.D., Norfolk

The Maternal Health Committee of The Medical Society of Virginia has analyzed all maternal deaths occurring in the State since 1941. This paper attempts to share with the Society some of the lessons which the Committee has learned by analysis of cases occurring during a selected recent period.

11:30 A.M.—WEIGHT REDUCTION—AN OVERALL APPROACH—Christopher M. G. Buttery, M.D., Rocky Mount

Weight reduction is still a prime requisite today in overall medical management, and still one of the more difficult problems of management. With proper supportive drug therapy, realizations of motivations and desires and an adequate psychological supportive program, it should be possible to help at least 85% of persons approach an ideal weight.

11:45 A.M.—STROKE REHABILITATION—Nila Kirkpatrick Covalt, M.D., Alexandria

Seventy-five to eighty percent of the two million persons officially reported as annually incapacitated by strokes can be taught to walk; at least twenty percent more can reach varying degrees of self-sufficiency from a wheelchair. Documented reports on thousands of patients have proven this in the past twenty-five years, yet the percentage of patients offered the treatment is far too few, even when it is available.

12:00 Noon—*Invited Speaker*—John W. Painter, M.D., President, Virginia Association for Mental Health, Fredericksburg—

SPECIAL EVENTS

Sunday, October 10

Virginia Academy of General Practice
Breakfast—Board Meeting—Lee Room—
7:30 A.M.

International College of Surgeons, Virginia Surgical
Section
Business meeting—Jackson Room—
4:30-6:00 P.M.

Social Hour—Patrick Henry Room—
6:30-7:00 P.M.

Council, The Medical Society of Virginia
Washington Room—10:00 A.M.

House of Delegates, The Medical Society of Virginia
Exhibit Hall "A"—2:00 P.M.

Conference on Continuing Education
Dominion Room—4:00 P.M.

VaMPAC
Banquet—Virginia Room—6:30 P.M.

Monday, October 11

VaMPAC
Breakfast—Lee Room—7:30 A.M.

Virginia Diabetes Association
Breakfast—Monroe Room—7:30 A.M.

Virginia Society of Internal Medicine
Executive Committee Breakfast—Byrd Room—
7:30 A.M.

Membership meeting to follow meeting of Virginia
Section, American College of Physician—(Col-
ony Room)

Virginia Academy of General Practice
Luncheon—Jackson Room—1:00 P.M.

Membership Meeting—Jackson Room—2:00 P.M.

Virginia Section, American College of Physicians
Luncheon—Colony Room—1:00 P.M.

Neuropsychiatric Society of Virginia
Luncheon—Room 1444—1:00 P.M.

Virginia Surgical Society
Luncheon—Dominion Room—1:00 P.M.

Virginia Chapter, American Association of Public
Health Physicians
Luncheon—Chauteau Suite—1:00 P.M.

Virginia Neurosurgical Society
Luncheon—Byrd Room—1:00 P.M.

Virginia Radiological Society
Luncheon—Lee Room—1:00 P.M.

Virginia Society of Plastic and Reconstructive Sur-
gery
Luncheon—Monroe Room—1:00 P.M.

Virginia Orthopaedic Society
Luncheon—Commonwealth Club—1:00 P.M.

Medical Advisory Committee to League of Planned
Parenthood
Business meeting—Room 1442—2:00 P.M.

Reference Committee #1
Patrick Henry Room—3:00 P.M.

Reference Committee #2
Washington Room—3:00 P.M.

American College of Surgeons
Special business session—Exhibit Hall "A"—
3:00 P.M.

The Medical Society of Virginia
Cocktail Party—Colony-Dominion Rooms—
6:30 P.M.

Banquet—Virginia Room—7:30 P.M.

Tuesday, October 12

Virginia Industrial Medical Association
Breakfast—Monroe Room—7:30 A.M.

Virginia Academy of General Practice
Breakfast—Editorial Board—Patrick Henry Room
—7:30 A.M.

Breakfast—Membership and Credentials Commit-
tee—Patrick Henry Room—7:30 A.M.

Luncheon—1966 Assembly Committee—
Monroe Room—12:45 P.M.

Virginia Chapter, American College of Chest Phy-
sicians
Luncheon—Byrd Room—12:45 P.M.

House of Delegates, The Medical Society of Virginia
Second Session—Jackson Room—3:30 P.M.

Medical College of Virginia Medical Alumni Asso-
ciation
Cocktail Party—Washington-Byrd-Lee Rooms—
6:30 P.M.

Banquet—Patrick Henry-Jackson Rooms—
7:30 P.M.

University of Virginia Medical Alumni Association
Cocktail Party—Commonwealth Club—6:30 P.M.

Banquet—Commonwealth Club—7:30 P.M.

The Golf Committee is all set to hold the annual tournament on one of Richmond's most popular courses. Full details will be provided in a special issues of "News and Views". It will be most helpful if those planning to participate would advise the State Office at their earliest convenience.

Once again, skeet enthusiasts will have their day. Each year the number of participants increases, and the competition becomes more exciting. Plans for the skeet tournament are shaping up nicely, and complete details will be provided well before the meeting. Those planning to compete should let the

State Office know just as soon as possible.

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The possibility of organizing a Virginia Chapter of the American College of Surgeons will be explored during a special meeting in Exhibit Hall "A" on Monday, October 11, at 3:00 P.M.

SCIENTIFIC EXHIBITS

Aids in Diabetic Management—DeWitt E. DeLawter, M.D., James M. Moss, M.D., Sidney A. Tyroler, M.D., and Edward J. Gallagher, M.D., Georgetown University Medical Center, Washington, D. C.

The practical approach to the diabetic patient is stressed. Simplified laboratory methods, insulin administration, oral agents, hypoglycemia, meal planning, and patient education are illustrated.

The Problem of Correcting the Severely Deformed Nose
—John Alexander Gill, M.D., Richmond

Using oversized models, the surgical treatment of the severely deformed external nose with its coexisting deviated septum is illustrated. Attention is first focused on the septum, and then the external nose is mobilized for the proper positioning of the septum.

The Case of Cutaneous Cosmetic Reactions—Linda A. Richardson, B.S., American Medical Association, Chicago, Illinois

The diagnosis and management of cosmetic dermatitis are presented.

A New Approach to Medical Education—Edwin F. Rosinski, Ed.D., Medical College of Virginia, Richmond

The increasing volume of scientific knowledge requires greater efficiency in teaching and learning. MCV has altered radically these ever changing goals. In this exhibit a graphic description of these changes and new methods of teaching medicine are illustrated.

Preventive Orthopaedics—Earnest B. Carpenter, M.D., Ernest L. Clements, Jr., M.D., and David Young, M.D., Crippled Children's Hospital and Medical College of Virginia, Richmond

Illustrations, photographs, and x-rays stress the importance of early diagnosis of the following conditions commonly seen in children: congenital dislocation of the hip, Legg-Calvé-Perthes disease, and slipped proximal femoral epiphysis.

Two New Contraceptives in Use in Virginia—Sarah E. Thomas, M.S., Virginia League for Planned Parenthood, Richmond

Display of IUCD and contraceptive pills in use in Virginia.

The Restoration of Function to the Injured Hand—Claude C. Coleman, Jr., M.D., Richmond

Early and late treatment of injuries of the upper extremity is shown. Emphasis is on the timing of management of tendon, nerve, and complex injuries. Causes of failure are pointed out.

VaMPAC: Virginia Medical Political Action Committee
—Board of Directors, Richmond

The functions and accomplishments of the organization are explained.

The Use of T. V. Tape Recording in Teaching Neurology
—Cary Suter, M.D., and Mr. Melvin C. Shaffer, Medical College of Virginia, Richmond

The versatility of the T. V. tape is exemplified by a simultaneous recording on the T. V. screen of an image of the patient and his neurological examination. Movement disorders, clinical seizures, and EEG patterns are shown. A chronological review of a patient's clinical course can be viewed by students at a time set apart from their regular lectures.

Better Health—Better World—Woman's Auxiliary to The Medical Society of Virginia

The role of the Auxiliary in community service, Civil Defense, student loans, health education, and the A.M.A. is presented.

Venereal Disease Control—Mr. Lloyd Simpson and W. R. Southward, Jr., M.D., State Department of Health, Richmond

Table top summary on Venereal Disease control including statistical data.

Packaged Disaster Hospital—P. H. Bazemore, B.A., B.S., and W. R. Southward, Jr., M.D., State Department of Health, Richmond

Various components of the Packaged Disaster Hospital used in event of disaster by local medical groups are demonstrated.

Refined Methods of Diabetes Screening—James A. Smith, B.S., and W. R. Southward, Jr., M.D., State Department of Health, Richmond

Demonstration of Unipipette method of obtaining blood and determination of blood sugar using the auto-analyzer.

Correlation of Intracardiac and Extracardiac Murmurs and Sounds in Ventricular Septal Defect: The Important Role of the Phonocatheter in Their Demonstration
—Louise W. Robertson, M.D., H. Page Mauck, Jr.,

M.D., and Carolyn Moore McCue, M.D., Medical College of Virginia, Richmond

Simultaneous recordings of internal and external phonocardiograms, at the time of cardiac catheterization, are presented by motion picture photography. The precise location of the catheter is visible. Brief case presentations and pertinent physiological data are correlated.

Day Care Treatment Program for the Adolescent—William M. Lordi, M.D., Memorial Foundation Day Care Center, Richmond

Presentation of a broad therapeutic program including classroom work with Special Education teachers, group therapy, occupational therapy, individual therapy when needed, as well as therapy for the parents. Illustrations of various aspects of the program, as well as products by the adolescents themselves, are included.

Four Life Saving Programs—American Cancer Society, Virginia Division, Inc., Richmond

Isolation of the Rectum in Obstetrics and Surgery—Christopher J. Murphy, M.D., John J. O'Connor, M.D., and Jean E. DeVries, R.N., The Alexandria Hospital, Alexandria

A plastic vaginal bib is used to prevent rectal contamination during obstetrical vaginal procedures. Its correct use and advantages are outlined.

Keratoplasty—Mr. Howard C. Houck, Eye Bank and Sight Conservation Society of Virginia, Roanoke

Colored slides show the various steps in keratoplasty. Cases are presented illustrating various corneal defects.

Use of Radiation in Studies of Transplant Immunity—James S. Wolf, M.D., H. Myron Kauffman, Jr., M.D., and David M. Hume, M.D., Medical College of Virginia, Richmond

The exhibit depicts the experimental methods and results of five applications of radiation which have been used to modify the host in studies of transplantation immunity, using canine renal homotransplants. Total body and local graft irradiation studies are summarized, and three newer methods of radiation to circulating blood cells are described.

Homotransplantation of the Kidney in Man—David M. Hume, M.D., H. Myron Kauffman, Jr., M.D., R. J. Cleveland, M.D., H. M. Lee, M.D., James S. Wolf, M.D., and George R. Prout, M.D., Medical College of Virginia, Richmond

Sixty-nine non-twin renal homotransplants have been carried out in 63 patients. Thirty-nine are living, a 62% overall survival. Pre- and post-transplant drug and x-ray treatment regimes are presented. Cadaver and repeat transplants data are reviewed.

Cytogenetic Techniques—Cecil B. Jacobson, M.D., and I. R. Telford, M.D., George Washington University School of Medicine, Washington, D. C.

The correlation of sex chromatin and X chromosomal anomalies to various congenital anomalies is demonstrated. Three basic modifications in the peripheral blood culture techniques for chromosomal analysis have been developed and simplified, permitting wider application of their use.

TECHNICAL EXHIBITS

Technical Exhibits will be located in the Exposition Center of the John Marshall Hotel. The following companies have reserved space:

Booth No. 1 THE STUART COMPANY Pasadena, California

A cordial invitation is extended to all members and guests attending this meeting to visit the Stuart Company booth. Specially trained representatives will be in attendance to answer your questions on new products, developed in our modern laboratories, which have particular interest for our medical profession. Products featured are DIALOSE, DIALOSE PLUS, MYLANTA, MYLICON, MULVIDREN-F and MULVIDREN JUNIOR.

Booth No. 2 SOUTHERN MEDICAL SUPPLY COMPANY, INC. Richmond, Virginia

We cordially extend an invitation to visit our booth for a very special gift package by Johnson & Johnson, new simplified laboratory procedures, and a very special offer on our Lilly biologicals. We are looking forward to seeing you at this convention.

Booth No. 3 PHYSICIANS PRODUCTS COMPANY, INC. Petersburg, Virginia

A cordial invitation is extended to the members and their guests to visit this booth featuring the Betadine Products, K.P.G. Products and Tristamine "Family" of products. Our representative will be on hand to demonstrate and discuss these and other popular formulations.

The unique Iodophor Betadine Products are unsurpassed in micribicidal activity with low incidence of toxicity.

K.P.G. Tablets, K.P.G.—400 and 300 Tablets and Powder for Solution, and K.P.G.—Sulfas Tablets and Powder for Solution are all members of our family of oral Penicillin G and Penicillin G Sulfonamides.

Tristamine, Tristacomp, Tristacol and Tristamal are all members of our family of antihistamines.

Booth No. 4 COMMERCIAL INSURANCE COMPANY Richmond, Virginia

Booth No. 5
MEDCO PRODUCTS—JOHN B. ACKER
Harrisonburg, Virginia

We believe that a visit to our booth will be of interest to you and a benefit to your patients.

Booth No. 6
SANDOZ PHARMACEUTICALS
Hanover, New Jersey

Sandoz Pharmaceuticals cordially invites you to visit our display where we are featuring MELLARIL, SANSERT, CAFERGOT P-B, FIORINAL and FIORINAL with Codeine.

Booths No. 7 & 8
ANDERSON & STRUDWICK
Richmond, Virginia

The objective of our exhibit will be to impress upon the medical profession the importance and need for greater participation and ownership in American business.

We intend to display some of the newest scientific developments created in recent years by several different industries. For example, we will display a miniature solar generator and a solar radio operating from the rays of a light bulb (light bulb in this case is only an indoor substitute for the sun).

We will have installed one of the recently developed Quotron II units which is an almost instantaneous means of obtaining the price, volume, trend, etc., of any individual stock by pressing the proper buttons. This will be operated, of course, only during the hours the New York Stock Exchange is transacting business.

The other displays will be complete surprises, but we think that through this exhibit we may directly and indirectly improve the future financial security picture of many men in the medical profession.

Booth No. 14
STRASENBURGH LABORATORIES
Division of Wallace & Tiernan, Inc.
Rochester, New York

Strassenburgh Laboratories offers the medical profession a unique group of therapeutic agents. Particularly esteemed are its "Strasionic" (cationic) exchange formulations, which combine dependably sustained effect with convenience of dosage. These have given the name STRASENBURGH a position of distinction in such therapeutic areas as the management of obesity, cough and associated respiratory ailments.

Booth No. 16
VAN PELT AND BROWN
Division of Mallinckrodt Chemical Works
Richmond, Virginia

Van Pelt and Brown extends a cordial invitation to visit their exhibit where representatives will be happy to supply complete information on Barbidonna, Covanamine, Luftodil and Sonilyn.

Booth No. 17
GEIGY PHARMACEUTICALS
Yonkers, New York

Geigy Pharmaceuticals cordially invites members and guests to visit its exhibit. The exhibit features important

new developments in the management of cardiovascular disease as well as current concepts in the control of inflammation; hypertension and edema; depression; obesity, and other disorders, which may be discussed with representatives in attendance.

Booth No. 26
R. J. REYNOLDS TOBACCO COMPANY
Winston-Salem, North Carolina

Welcome to the R. J. Reynolds Tobacco Company Exhibit! You are cordially invited to receive a cigarette case (monogrammed with your initials) containing your choice of CAMEL, WINSTON Filter, SALEM Filter, TEMPO Filter, or CAVALIER King Size Cigarettes.

Booth No. 29
THE UPJOHN COMPANY
Kalamazoo, Michigan

Professional representatives of The Upjohn Company are eager to contribute to the success of your meeting. We are here to discuss with you products of Upjohn research that are designed to assist you in the practice of your profession. We solicit your inquiries and comments.

Booth No. 30
SMITH, MILLER & PATCH, INCORPORATED
New York, New York

Smith, Miller & Patch cordially invites you to visit their exhibit. Our representatives will be pleased to discuss the latest advances in therapy. Featured at our exhibit will be: Cephalgesic, a new product for the treatment of headache; Lipoflavonoid, Lipotriad, Vitron-C and Kondremul. Also featured will be a range of topical ophthalmic preparations including Vasocon-A, an antihistamine/decongestant.

Booth No. 31
ABBOTT LABORATORIES
North Chicago, Illinois

Abbott Laboratories invites you to visit our exhibit. Our representatives will be happy to answer any questions you may have concerning our leading products and new developments.

Booth No. 32
DAVID A. DYER INSURANCE AGENCY
Roanoke, Virginia

Specializing in Group Insurance Programs for members of The Medical Society of Virginia—Disability Income, Major Hospital Nursing and Professional Overhead Expense.

Booth No. 33
ARNAR-STONE LABORATORIES, INC.
Mount Prospect, Illinois

AMERICAINE—20% dissolved benzocaine in a water soluble base—ointment, liquid, suppositories and aerosol forms. Aerosol operates rightside up or upside down for contortion-free application.

HAZEL-BALM—New "medicated cushion of foam" combines cooling, soothing witch hazel with emollient water soluble lanolines. Wide range of usefulness in office and hospital practice.

QUINETTE—The vaginal insert with disposable "pink

pencil" inserter for 36-hour control of symptoms—12 day treatment—in mixed or monilial vaginal infections.

Booth No. 34

CIBA PHARMACEUTICAL PRODUCTS

Summit, New Jersey

The attending CIBA representatives will provide information on the many benefits of Ser-Ap-Es® (reserpine 0.1 mg., hydralazine hydrochloride 25 mg., hydrochlorothiazide 15 mg.). The benefits offered patients with high blood pressure include: multiple antihypertensive actions, relief of edema, a calming effect. The hydralazine component increases renal blood flow; relaxes cerebral vascular tone.

Booth No. 35

MEAD JOHNSON LABORATORIES

Evansville, Indiana

The Mead Johnson Laboratories' exhibit has been arranged to give you the optimum in quick service and product information. To make your visit productive, specially trained representatives will be on duty to tell you about their products.

Booth No. 36

J. B. ROERIG AND COMPANY

Division Chas. Pfizer & Company

New York, New York

J. B. Roreig and Company will welcome members of the medical profession at their exhibit of leading specialty products. Representatives will be in attendance to answer any questions you may have. Roerig recently introduced a number of new products which representatives will be pleased to discuss with you.

Booth No. 39

PEOPLES DRUG STORES

Washington, D. C.

Our booth set-up will be as usual, namely the Portazibit Display including copies of our institutional ads, pharmaceutical plaques, jars, etc. As always, we will be giving away our little note pads and pencils.

Booth No. 40

LEDERLE LABORATORIES

Division American Cyanamid Company

Pearl River, New York

Lederle Laboratories is proud to support the annual meeting of The Medical Society of Virginia. As one of the leaders in medical research and quality controlled production, we present for your consideration products such as DECLOMYCIN, ACHROMYCIN V, ARISTOCORT, and others applicable to your practice. Our representatives are also prepared to provide information on our numerous services to medicine.

Booth No. 41

WARNER-CHILCOTT LABORATORIES

Morris Plains, New Jersey

The following products will be featured at the meeting:

Peritrate®

Gelusil®

Booth No. 42

SYNTEX LABORATORIES, INCORPORATED

Palo Alto, California

Norinyl® (Norethindrone 2.0 mg with mestranol 0.1 mg) Tablets, an original steroid from Syntex Laboratories, will be featured at our booth. Norinyl 2 mg supersedes barrier methods of contraception.

Physicians are invited to register at the Syntex exhibit for complete information on this outstanding new product.

Booth No. 43

WESTWOOD PHARMACEUTICALS

Buffalo, New York

Westwood invites physicians to stop by their booth to discuss their unique dermatological products:

Fostex Cream Sebucare Sebulex Alpha-Keri

Fostex Cake Sebutone Fostril Keri Lotion

These products are particularly suitable for personal use by physicians and their families who may be plagued with dandruff, acne, dry and itchy skin, and sensitivities to soap. Register so that we may send prescription units to your home.

Booth No. 44

U.S. VITAMIN & PHARMACEUTICAL CORPORATION

New York, New York

The U. S. Vitamin & Pharmaceutical Corporation cordially invites you to visit their exhibit where ARLIDIN will be on display, as well as other leading pharmaceutical specialties and nutritional products.

Professional service representatives will be in attendance to welcome you and to be of help in answering any inquiries pertaining to the products on display, as well as any of their other products.

Booth No. 45

SMITH, KLINE & FRENCH LABORATORIES

Philadelphia, Pennsylvania

Representatives will be on hand to answer your specific questions and provide information on their products and services.

Booth No. 46

A. H. ROBINS COMPANY, INCORPORATED

Richmond, Virginia

Welcome to the convention, Doctor, from the A. H. Robins Company.

We hope you can stop at our display for a moment. The representatives there will be happy to answer any questions you may have about our products and explain their advantages.

Booth No. 47

WALLACE LABORATORIES

Cranbury, New Jersey

We invite you to visit our booth where our representatives in attendance will be pleased to furnish information regarding Wallace products and your related medical questions to assist you in your practice.

Featured in our product "Solacen" (Tybamate) and other drugs of original research.

Booth No. 48
G. D. SEARLE & COMPANY
Chicago, Illinois

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Booth No. 49
PFIZER LABORATORIES
New York, New York

Professional Service Representatives from Pfizer Laboratories will be pleased to have you in attendance at their booth to discuss the latest products of Pfizer research.

Booth No. 50
BRISTOL LABORATORIES
Syracuse, New York

Booth No. 51
SCHERING CORPORATION
Bloomfield, New Jersey

Schering Corporation invites you to their exhibit where representatives will be on hand to discuss the most recent advances in one of the SCHERING PRODUCT RELIEF GROUPS.

Booth No. 52
MERCK SHARP & DOHME
West Point, Pennsylvania

The Merck Sharp & Dohme exhibit features subjects of scientific interest. Technically trained personnel are present to discuss the scope and variety of these services.

Booth No. 53
W. B. SAUNDERS COMPANY
Philadelphia, Pennsylvania

Earl Dunham will be on hand, as usual, and as usual will be pushing Saunders books to all. Stop by and be tempted!

Booth No. 54
BURROUGHS WELLCOME & COMPANY
Tuckahoe, New York

You are invited to visit our booth for information on our products and the newest developments from the research facilities of Burroughs Wellcome & Company.

Of particular interest at this meeting are "Actified" for respiratory congestion, and "Mantadil" Cream for topical relief of itching.

Booth No. 55
WM. P. POYTHRESS & COMPANY
Richmond, Virginia

Mudrane, established Poythress combination for relief of bronchial asthma, and its new companions, Mudrane GG and Mudrane GG Elixir, will be featured at our exhibit. Other established Poythress products will also be exhibited.

Booth No. 56
AYERST LABORATORIES
Division American Home Products Corporation
Arlington, Virginia

"Riopan"—A true buffer-antacid supplied in cookie form, chew tablets, swallow tablets and suspension. A

unique dosage form, brand new, with distinct advantages, is our "Riopan" Antacid Cookie.

"Premarin"—(Conjugated Estrogens—Equine)—Current opinion favors maintenance of beneficial estrogen level in the menopause and throughout life to retard and even prevent serious metabolic disorders from estrogen deprivation. "Premarin" assures prompt relief of menopausal distress, gives a "sense of well-being" and is well tolerated.

Booth No. 57
ENCYCLOPAEDIA BRITANNICA
Chicago, Illinois

Encyclopaedia Britannica welcomes members to the annual meeting of The Medical Society of Virginia and invites them to examine the great new edition of Britannica.

Official delegates may now purchase this magnificent set at an offer only available at our convention exhibits. Visit Britannica's booth for free descriptive literature.

Booth No. 58
WINTHROP LABORATORIES
New York, New York

You are cordially invited to visit the Winthrop booth where representatives will be pleased to give you information on latest developments in the field of medicine—such as, NegGram (brand of Nalidixic acid) and Isuprel (brand of Isoproterenol) Mistometer.

Booth No. 59
ELI LILLY AND COMPANY
Indianapolis, Indiana

You are cordially invited to visit the Lilly exhibit. Our sales representatives in attendance welcome your questions about Lilly products. You may be particularly interested in discussing KEFLIN® Cephalothin, or C-QUENSTM Sequential folder containing fifteen 80-mcg. tablets of mestranol plus five tablets each combining 80 mcg. mestranol and 2 mg. chlormadinone acetate.

Booth No. 60
THE COCA-COLA COMPANY
Atlanta, Georgia

Ice-cold Coca-Cola served through the courtesy and cooperation of the Richmond Coca-Cola Bottling Company, Incorporated, and The Coca-Cola Company.

Booths No. 61 and 62
RICHMOND SURGICAL SUPPLY COMPANY
Richmond, Virginia

General medical corporation—operates four complete surgical supply houses in Virginia—Richmond Surgical in Richmond, Roanoke Surgical in Roanoke, Seaboard Surgical in Newport News, and Virginia Surgical in Falls Church. Our exhibit will consist of the most modern and up-to-date equipment, instruments and supplies available for physicians and hospitals.

Booth No. 63
JOHNSON & JOHNSON
New Brunswick, New Jersey

The Johnson & Johnson exhibit will feature the latest improvements in surgical dressings and professional spe-

cialty products. The most recent advances for the practice of medicine include SURGICEL Brand Absorbable Hemostat, a major advance in the control of hemorrhage which does not depend upon the normal clotting mechanism; and DERMICEL Brand Surgical Tape, a newly-improved special-purpose dressing tape for patients with unusual adhesive tape sensitivity, is an outstanding addition to a complete line of adhesive tape products. Well-informed representatives will be pleased to discuss these products or provide information on any other items made available by the world's largest manufacturer of surgical dressings and baby products.

Booth No. 64
HEWLETT PACKARD/SANBORN DIVISION
Richmond, Virginia

Booth No. 65
E. R. SQUIBB & SONS
New York, New York

E. R. Squibb & Sons has long been a leader in development of new therapeutic agents for prevention and treatment of disease. The results of our diligent research are available to the medical profession in new products or improvements in products already marketed.

We will be pleased to present up-to-date information on these advances for your consideration.

REPORTS FOR 1965 ANNUAL MEETING

Executive Secretary-Treasurer

As the end of another Society year approaches, one cannot but wonder whether the physician will ever again know days of true peace and tranquility—days when he can go about his job of caring for the sick without having to worry about the direction from which the next attack will come.

The medical profession today is an embattled profession—trying to stand firm and retain its balance in the face of countless thrusts from those diverse forces which, for the most obvious of reasons, have made medicine their No. 1 target. Proponents of Government medicine have long been aware of the old adage that to “bring the medical profession to its knees will open the door to all other fields of endeavor”.

This past year saw an all-out effort by these forces to utterly and completely destroy medicine's ability to defend itself on the legislative front. And yet, despite this effort, medicine continued to win new friends and gain the respect of those who recognize devotion to principle and cause. Seldom indeed has any group of Americans refused to be knocked off its feet although “counted out” time after time.

Just what the future holds for the medical profession—indeed for all Americans—is difficult to predict. Medicare is on the verge of becoming a reality rather than a threat. Those groups made of weaker stuff are rushing to climb aboard the Administration's bandwagon before it turns the corner. Out of these chaotic events, however, emerges one basic truth—the profession has covered itself with honor in refusing to compromise the issue, and, consequently, will be in a better position to help determine just what direction Medicare, or any other Government medical program, takes. The profession remains united—an absolute necessity if the years ahead are to be salvaged and a final victory won over the forces of socialism.

During the years ahead, state medical societies will more than ever provide the hub around which the medical wheel must revolve. These are the transmission groups—effectively linking local action groups (component societies) with national policy-making bodies (principally the AMA). In Virginia, it is your own Medical Society of Virginia which will represent all physicians on matters

involving the Congress and the General Assembly. Such a society must necessarily be alert, flexible and geared to the ever-changing and increasing demands of a fast-moving period of history. We believe we have such a society now—seasoned by long years of service dating back to 1820 and guided by officers and a governing body of proven wisdom and ability. As The Medical Society of Virginia stands poised for a year certain to provide many problems, let us briefly review just a few of its activities and accomplishments since last October.

National Legislation: Never before has the Society maintained such close contact with Virginia's congressional delegation. It is, of course, difficult to accurately assess the value of these many contacts, but the fact that both Senators and eight Representatives actively opposed Medicare would seem to indicate some degree of success. It would be most unfair, however, not to point out that we are represented by unusually competent and dedicated men.

For the sixth straight year, your Society held a luncheon at the Capitol in Washington for our Congressional Representatives. We were very pleased at the 100 percent attendance, and again came away secure in the knowledge that Virginia physicians have many good friends north of the Potomac.

Finances: Once again we are pleased to be able to report that the Society is operating on a sound financial footing. Despite a number of unforeseen events leading to a greater outlay of funds than anticipated, The Medical Society of Virginia has lived within its income—and for the most part within its budget. It is hoped that each member will review the report of the auditor, which will be published in the December issue of the Virginia Medical Monthly.

Personnel: The state office staff was plagued by an unusual series of events during the early summer. Periods of illness were suffered by two employees and Mr. Smith was tapped by the American Medical Political Action Committee to establish a regional office in Atlanta. Consequently, it was necessary to utilize the services of sub-

stitutes for a number of weeks. Fortunately, they were quite competent.

The Society has been fortunate in obtaining an able replacement for Mr. Smith—Mr. David Pillsbury. Mr. Pillsbury is a graduate of Randolph-Macon College and possesses those qualifications so necessary in professional association work.

It became increasingly evident during the year that a second secretary was a must. The ever increasing volume of work had finally reached that much discussed point where both quality and quantity suffered. And so it was that Miss Peggy Tucker was employed in August as the fifth member of the permanent staff. We would call attention, however, to the fact that The Medical Society of Virginia still has the smallest staff for its size of any state medical society in the nation.

Your Executive Secretary, in looking back upon the events of the last three months, can but attempt to find words to express his appreciation of the "extra" efforts put forth by all staff members. Perhaps it is this spirit, so much in evidence when adversity strikes, that is responsible for our minimum personnel turnover.

Meetings: Perhaps never before has your Society been represented at so many national, state and regional meetings. For example, Society delegates and representatives attended both the annual and interim sessions of AMA, a special legislative conference on the controversial heart, cancer and stroke program, the AMA Public Relations Institute, a Washington conference on emergency medical services, the 4-H Club award ceremony at Blacksburg, national and regional meetings of AMPAC, a conference of mental health committee chairmen, the First Virginia Congress on Mental Health and Illness, the annual meeting of the Medical Exhibitors Association, a conference for state journal editors, the annual meeting of the Professional Convention Management Association, the annual meeting of the Virginia Nursing Home Association, annual meeting of the Virginia Dental Association, annual meeting of the Virginia Pharmaceutical Association, Workshop of the Virginia Nurses Association, and the annual meeting of the Virginia Association of Medical Assistants.

Speakers Bureau: It should come as no surprise that the Society provided speakers for many groups during the past twelve months. With Medicare the number one topic of the day, your state office was literally deluged with requests for speakers. To provide some idea of what we mean, let us take a brief look at just a few of the groups addressed by members of the Speakers Bureau: Virginia Nursing Home Association, Franklin Rotary, Harrisonburg Rotary, Harrisonburg Kiwanis, Petersburg Civitan, South Richmond Optimist, Southside Rotary, Health Underwriters Association, Highland Springs High School government class, Richmond First Club, Richmond Association of Medical Assistants, Manassas Civitan, etc.

This partial list doesn't begin to include those speaking engagements arranged at the local level by many component societies. Needless to say, the true story of medicine's opposition to Medicare was told the length and breadth of this great State.

Committees: Forty committees were active during the year. Each member owes it to himself to read the various committee reports and become familiar with the many activities carried on in his behalf.

Virginia Medical Monthly: Judging from the mail—fan and otherwise—received in the State Office, the Monthly is a well and widely read publication. While the excellence of its scientific articles is an accepted fact, it is the editorial content which seems to stimulate and provoke the greatest response.

Although advertising volume remains below that enjoyed during the golden years of the "fifties", there are indications that a comeback of sorts might be on its way. This would seem a proper time to recognize the work of Dr. Harry J. Warthen, Jr., Editor, and Miss Spencer Watkins, Managing Editor, and an able Editorial Board. These are the people who have continued to turn out a high-quality publication—while adjusting all the time to the advertising situation.

Membership: Once again, new gains were scored in the continuing membership effort. Another milestone was passed when the figure 3,300 was left behind. This is very encouraging, since medicine's future to a great extent depends on a united front. The membership story in detail follows:

July 31, 1964		3,239
New	184	
Reinstated	8	
	—	
Increase		191
Deaths	48	
Resignations	28	
Dropped	36	
	—	
Decrease		112
Net Increase		79
		—
July 31, 1965		3,319

Conferences: For the first time in its history, The Medical Society of Virginia sponsored a Conference on the Medical Aspects of Sports. Presented in cooperation with the Virginia High School League, the conference was held in Lynchburg and attracted a splendid turnout of physicians, coaches, trainers and athletic directors.

Senior Day Programs were again presented for the graduates of both medical schools—one in Richmond and the other in Charlottesville.

The Society's Mental Health Committee was one of the sponsors of a one day symposium at Westbrook's Psychiatric Hospital in Richmond, and the Society was a contributor to the First Virginia Congress on Mental Health and Illness.

This has indeed been a busy, and sometimes hectic, year. Your staff is thankful that it had a strong President and able Council upon which it could rely when moments of decision were at hand. And—there were many such moments during the past twelve months.

Everything points to another "year of decision", and your Society will once again be doing its very best to

serve the best interests of the physician as an individual and the profession as a whole.

ROBERT I. HOWARD
Executive Secretary-Treasurer

AMA Delegates

The June meeting of the AMA House of Delegates could most certainly be described as one of the most important in its long history. While it is not practical to even attempt to cover all matters considered during the meeting, your Delegates would like to review some of those which bear strongly on the profession and its future.

Health Care Legislation

The most controversial issue before the House was that of nonparticipation under any so-called "Medicare" law that might be passed by Congress. The House recommended that "the members of the American Medical Association be reminded that it is each individual physician's obligation to decide for himself whether the conditions of a case for which he is about to accept responsibility permit him to provide his own highest quality of medical care."

In adopting a substitute resolution, the House declared that "the physicians of the United States of America pledge themselves to continue their search and activity, in whatever social environment may develop, to secure or to restore the freedom, high quality and availability of medical care which has been traditional in our country.

"When the fate of the pending medicare legislation is determined, this House will review, in special session if necessary, the effect of the law and take whatever action is deemed necessary.

"In keeping with the testimony before your Committee, and the expressed policies of this House, this action should in *no way* be interpreted as a change in Section 6 of the 'Principles of Ethics' of the American Medical Association which plainly states: 'A physician should not dispose of his services under terms or conditions which tend to interfere with or impair the free and complete exercise of his medical judgment and skill or tend to cause a deterioration of the quality of medical care'; and that this House of Delegates reaffirm the principles of the Bauer amendment adopted in 1961.

"The House of Delegates reaffirm the nine principles for standards of health care programs as adopted by the House of Delegates in its special meeting February 7, 1965, and amended to read as follows:

- '1. No person needing health care shall be denied such care because of the inability to pay for it.
- '2. It is appropriate that government revenues be used to finance health care when other resources have been found to be inadequate.
- '3. Every level of government, municipal, county, state and federal, should assume a responsible share in the financing of such programs.
- '4. The health care provided by such programs should be adequate and should be equal to that available to those who can afford to pay.

- '5. Maximum use should be made of voluntary prepayment and insurance mechanisms.
- '6. Administration of such program should be the responsibility of the state government. Participating states should be required to meet adequate standards of administration in order to qualify for federal funds.
- '7. Eligibility requirements for benefits should be fair, realistic, uncomplicated and practical.
- '8. Any such health care programs should provide funds only, and not direct services.
- '9. Funds for such programs may come from general tax revenues and not from social security taxes.'"

President Johnson

In a related action, urging that government seek the advice of the medical profession on health legislation, the House adopted a resolution which included the following statement:

"This House of Delegates restates its offer to meet with the President of the United States through our Legislative Task Force to discuss proposed medical care legislation with a view to safeguarding the continued provision of the highest quality and availability of medical care to the people of the United States."

The DeBakey Report

In considering seven resolutions involving the report and recommendations of the President's Commission on Heart Disease, Cancer and Stroke, the House adopted a substitute statement which resolved that:

"The American Medical Association point with pride to the immense strides made in the approaches to the conquest of heart disease, cancer, and stroke under existing patterns of research and medical practice; strongly favoring the use of available financial support for extension of these patterns rather than replacement by a complex of medical control centers and satellites.

"The American Medical Association oppose those particular Commission recommendations which call for and have stimulated proposals for hastily contrived and unproven sweeping changes in the pattern of medical research, education, and patient care.

"The component state medical associations be urged to conduct conferences with medical educators and scientists, medical staffs of hospitals, medical society representatives, and other interested parties, for the purpose of exchanging information and for the development of such recommendations as may be appropriate for the continued improvement of medical education, research and patient care.

"The state medical associations be urged to report findings and recommendations resulting from these conferences to the AMA Board of Trustees."

New Sections

In a report to the Board of Trustees, the Council on Postgraduate Programs affirmed its belief that the establishment of a new section is an important change in

the AMA structure and submitted a procedure for evaluating the qualifications for a new section and the scientific programs of all sections.

In brief, this procedure provides that (1) the group requesting formation of a new section submit to the Executive Vice President a written request for approval; (2) the request be transmitted by the Board to the Council on Postgraduate Programs for evaluation of the petition; (3) if approved by the Council, a mandatory trial period of two years as presently in effect be provided under the auspices of the Council; and (4) after such trial period, a recommendation for acceptance or denial of the petition for the establishment of a section be made to the Board.

The House approved the recommendation, with certain word changes, and suggested that it be sent first to the Gundersen Committee and then to the appropriate AMA council for consideration.

New Officers

Dr. James Z. Appel, Lancaster, Pennsylvania, was installed as successor to Dr. Donovan F. Ward. Dr. Charles L. Hudson of Cleveland, Ohio, was named President-Elect. On the Board of Directors was Dr. Irvin E. Hendryson of Denver, Colorado.

Miscellaneous Actions

In its consideration of a great many resolutions and reports, the House also:

1. Urged medical schools and agencies concerned with continuing education to incorporate "appropriate learning experiences" for physicians in counseling relating to sexual attitudes and behavior.
2. Agreed that hospital medical staffs and state and component medical societies be urged to encourage the establishment, maintenance, and proper use of cancer registries in hospitals, but that the establishment of such registries should not be made a requirement for accreditation by the Joint Commission on the Accreditation of Hospitals.
3. Instructed the Council on Medical Service and its Committee on Federal Medical Services to "remain alert to any deviations from policies of the Veterans Administration concerning the provision of drugs to veterans treated by private physicians, and to meet with pharmacy representatives so that the basic principles of freedom of choice" of pharmacists be maintained.
4. Referred to the Board of Trustees a resolution calling for the AMA to caution the public against discontinuing voluntary health insurance policies and prepayment plans for persons over 65 in "anticipation of pending legislation."
5. Reaffirmed its policy concerning the practice of radiology, pathology, anesthesiology and physical medicine in hospitals.
6. Reaffirmed AMA policy that human blood, as living tissue, should not be purchased under insurance

contracts. It was recognized that exceptions may be necessary when there is need for unusually large numbers of transfusions, or whenever volunteer blood donors are not available.

7. Urged state and local medical societies to encourage the development of the Explorer Scout Program for Medical Specialty Posts and noted that about 150 of the 21,000 Explorer Scout Posts in the country are directly related to health.
8. Adopted a resolution calling for continued efforts to secure the passage of legislation "which will remove tax discrimination against professional people, specifically HR 10 (Keogh) and HR 697 (Weltner), but turned down recommendations that the AMA encourage its members to proceed at the state and county levels with the formation of corporations for the purpose of implementing an "organized effort in the courts to remove tax discrimination."
9. Directed the Board to review the subject of federal assistance for operating expenses for health or medical education facilities.
10. Directed the Board to study the opportunities and problems associated with Operation Head Start and other programs now operating or planned under the Economic Opportunity Act.

Referred to the Board for study a resolution calling for "a program of purchase of health insurance . . . in every state, subsidy for which shall be by federal-state participation," under which "extension of coverage shall be to all needy persons regardless of age."

Also referred to the Board for consideration and appropriate action a 10-point legislative program outlined by the Minnesota delegation.

11. Disapproved a series of resolutions urging the approval of an American Board of Family Practice, since such action would be in violation of established procedure for the creation of new specialty boards.
12. Urged the Council on medical education to establish a standard date of appointment for all approved residency training programs.
13. Encouraged state and county medical societies to participate in the formation of State Associations of the Professions, "to provide a vehicle, for interprofessional cooperation in those areas where united activity of the various professions can be of great benefit."
14. Amended the bylaws to provide that the vice president shall succeed to the presidency should the president die, resign or be removed from office.
15. Accepted a Board of Trustees report stating that it had referred to the joint AMA-American Bar Association committee a previously introduced resolution designed to present a grievance against alleged abuse of legal processes, characterized in the resolution as "vexatious litigation".

VINCENT W. ARCHER, M.D.

W. LINWOOD BALL, M.D.

ALLEN BARKER, M.D.

Membership

No problems were encountered during the year, and no meetings of your Committee were held.

We would, however, like to call your attention to the fact that the Society's membership total has passed the 3,300 mark and continues its steady climb. This is particularly important in these days when a united profession is an absolute must. To the many new members, whose names have been published in the *Virginia Medical Monthly* during the year, we bid welcome.

Your Committee has the privilege of nominating our President, Dr. McLemore Birdsong, for honorary active membership in The Medical Society of Virginia. His untiring efforts and sound leadership have brought the Society safely through a period of great trial. He has won not only our admiration—but our sincere thanks.

PAUL D. CAMP, M.D., *Chairman*

Editorial

The Editorial Board was shocked by the tragic death of Dr. Ennion S. Williams on February 8th as the result of a plane crash. Dr. Williams was the senior member of the Editorial Board in years of service and he was Associate Editor during Dr. M. Pierce Rucker's final years of editorship. His articles, which dealt chiefly with insurance matters, will be greatly missed. Dr. W. T. Thompson, Richmond, was appointed to succeed Dr. Williams.

The response to the questionnaire which recently appeared in the *Virginia Medical Monthly* was very good and of decided aid in determining the type of article our readers desired. We are glad to have clinical pathological conferences appear as a regular feature through the cooperation of the Medical College of Virginia and the University of Virginia School of Medicine.

HARRY J. WARTHEN, M.D., *Chairman*

Ethics

No problems requiring a formal meeting were referred to your Committee this year. There are, however, two items of interest which we would like to report.

First, there have been some objections to an earlier action of Council which placed The Medical Society of Virginia on record as opposing "paid announcements or advertisements"—which are considered unethical in many areas of the State. The objections were received following a letter of notification sent by the Executive Secretary to all component societies. As a result, the matter will again be placed on the Council agenda for its next meeting.

This year the American Medical Association is sponsoring its first National Conference on Ethics and Professionalism, and your Chairman will represent The Medical Society of Virginia. Many have stated that such a Conference is long overdue, and it will be interesting to see just what comes of it. Your Committee will keep you advised.

RUSSELL G. MCALLISTER, M.D., *Chairman*

ROBERT P. TRICE, M.D.

A. L. VAN NAME, JR., M.D.

Public Relations

Each year your committee becomes more and more convinced that the individual physician—and only the individual physician—can establish and maintain good medical public relations. This fact would seem to be borne out by any number of public relation polls taken over the country in the past two years. The findings were always basically the same—considerable criticism of the profession as a whole but genuine praise for individual physicians—family and otherwise.

These polls can mean but one thing—people are suspect and not overly impressed by public relations programs obviously blueprinted and designed to accomplish a particular objective. Rather, people are impressed and influenced by the genuine concern and interest of their physicians—especially when the concern is backed by a clear-cut understanding of the problems confronting medicine from day to day. All of which means that individual physicians *must* recognize their responsibility in the area of public relations and actively practice it every waking hour.

As we look back on the past twelve months we believe you will enjoy learning about a few of our projects during the year. Once again, senior medical students at the University of Virginia and Medical College of Virginia were guests of the committee at special Senior Day Programs in Charlottesville and Richmond. The University of Virginia group heard Congressman John O. Marsh (D., Virginia) discuss the future which they are facing. The Medical College of Virginia seniors were addressed by Mr. Arne Larson, Assistant Director of the AMA Department of Medicine and Religion. Mr. Larson discussed his department's activities and told of the importance of developing a closer working relationship between physicians and clergymen.

For the first time in its history, The Medical Society of Virginia sponsored a conference on the medical aspects of sports. The conference, presented jointly with the Virginia High School League, was held in Lynchburg and attracted physicians, coaches, trainers and athletic directors from all over the State. This is something which we will possibly want to continue as long as the need exists.

Each year we point with enthusiasm to the 4-H Club Health Awards presented by the Society's Committee on Rural Health. The awards are presented in June during the 4-H work sessions at VPI, and the ceremony regularly attracts some 1,200 relatives and visitors. We consider sponsorship of these awards among the most important Society projects.

Once again your chairman attended the annual AMA Public Relations Institute in Chicago. These institutes serve both as refresher courses in basic public relations and launching platforms for new P.R. projects and ideas. It is too bad that all our component Societies do not send representatives to these sessions. How helpful it would be to have knowledgeable men in every area of the state ready to assist in the implementation of those projects applicable to Virginia.

Individual members of your committee remained active in the medical assistant movement. Your chairman participated in two special meetings designed to acquaint physicians with medical assistants associations, and one

which explored the possibility of organizing a new chapter in the northern Virginia area. We must never lose sight of the fact that, next to the physician himself, medical assistants represent the most single powerful force for good or bad public relations.

A number of TV stations over the State ran short public service tapes on selected health topics, and we are grateful for their cooperation.

As we close our report, we would again remind all physicians that they are engaged in the fight of their professional lives. Those who have made medicine their number one target in the campaign to foist socialism on the American people will continue to apply the pressure. The public is watching and forming opinions daily. How well we practice our public relations will help determine how much of our freedom we will retain.

JOHN WYATT DAVIS, JR., M.D., *Chairman*

Medical Service

Members of the Richmond Blue Cross-Blue Shield Plan, The Virginia Hospital Association and the Chairman of the Subcommittee on Prepaid Medical Care met with the Committee to discuss hospital utilization. In addition to the above individuals, we were fortunate in having with us Dr. McLemore Birdsong, President of the Society.

After rather lengthy discussion of the many aspects of the problem and various solutions which had been attempted in other states it was resolved as follows:

"That The Medical Society of Virginia take the lead in establishing a strong central utilization committee with regional representation. That this committee be provided with the names of the utilization committees of the various hospital staffs and medical societies throughout the State. It was further resolved that the Society study the feasibility of encouraging regional area-wide planning groups."

It was the Committee's opinion that through such central and regional representative activity a more effective program could be instituted.

Blue Cross-Blue Shield programs in Virginia were discussed and it was the Committee's opinion that a more firm and satisfactory understanding between Blue Cross-Blue Shield and The Medical Society of Virginia will result when there is only one such plan covering all persons in the State. It was recommended that we continue efforts to attain such a situation.

The Committee again briefly discussed the question of including podiatry, dental and osteopathic services in Blue Shield contracts and reaffirmed its previous position that this should not be done.

Considerable study has been given to the development throughout the State of laboratories for medical diagnostic procedures. This problem appears to be rapidly increasing in size and it was recommended that Council appoint a special committee to study legislation in existence elsewhere and to consider the preparation of adequate legislation for protection of the public and the profession in this State.

The usual 4-H Award Program for Health Activities was again endorsed and it was recommended that we continue with this practice.

Council had requested that the Committee consider recommendations for "blood availability" in hospitals for obstetrical cases. It was the opinion of the Committee that this was a problem which should be considered by the staffs of the respective hospitals throughout the State and that the Committee on Maternal and Child Health should make recommendations as to what they considered adequate standards.

Several other matters were discussed in detail by the Committee but no final conclusions or recommendations were made.

The Chairman wishes to express his appreciation to the members of the Committee for their cooperation and assistance.

C. L. SAVAGE, M.D., *Chairman*
BEVERLEY B. CLARY, M.D.
HOWARD McCUE, M.D.
WM. F. MURPHY, JR., M.D.
RAY A. MOORE, JR., M.D.
WILLIAM D. DOLAN, M.D.
J. H. IRBY, M.D.
BARNES GILLESPIE, M.D.
W. C. STONE, M.D.
C. V. CIMMINO, M.D.
JAMES M. PERRY, M.D.

Blue Shield Directors

As this is written in late July there is no significant development to be reported at this time. The number of Participating Physicians with the Virginia Medical Service is increasing. The effect of the King-Anderson passage on Blue Shield cannot be predicted at this point. However, developments will be followed by the members of this committee and the Society will be kept informed.

FLETCHER J. WRIGHT, JR., M.D., *Chairman*

Traffic Safety

The Committee on Traffic Safety did not hold a formal meeting this year. A poll of the members of the committee indicated a deep concern about the annual increase in the traffic fatality rate, the difficulty in controlling the drinking driver, and the general disinterest of the public in automobile safety.

There is little doubt that those most involved in the problem of highway safety have a right to be disheartened. In spite of the dedicated efforts of the many safety-minded individuals and the various safety groups, both civic and governmental, the terrific toll of highway deaths continues to rise. Our number one public health problem remains unsolved.

However, recent developments in the area of highway safety provide an element of optimism.

There has been a change in emphasis in automobile accident prevention from accent on the cause of accidents to control of serious injuries by improved car design and driver education. After considerable prodding, the automobile manufacturers will now install into the 1966 model some of the safety features advocated by Dr. Fletcher Woodward many years ago. No doubt the investigations of the Senate Subcommittee on Governmental Operations

hastened this move, but we will say in defense of the car makers that their reluctance to adopt safety devices was motivated by concern of unacceptable innovations by a public apathetic to anything related to safety.

Greater attention is being paid to causes of fatal crashes other than speed, inattention, liquor and exhaustion. Not in any way deprecating the importance of driver error, the Harvard report emphasizes the significance of mechanical failure, improper automobile maintenance, and the role of the automobile as an instrument of homicide or suicide. Other investigations indicate that speed is less likely to cause accidents than previously thought and policies of strictness against speeders have failed to reduce the number of traffic fatalities.

Progress in highway safety is being accomplished by considering all the factors involved in auto crashes. It is a many faceted problem and the increasing time and money spent on research will ultimately save thousands of lives.

The tragic holiday weekend tolls have forcibly aroused an indifferent public. More attention is being paid to the inadequate driver and the need for post graduate driving courses to perfect driver skills. The development of the concept of defensive driving is now quite evident. The national driver's test on television represented the first positive effort to make the public conscious of their driving deficiencies; it is hoped that this type of program will be continued.

During the past year the Committee on Visual Standards for Motor Vehicle Drivers under the Chairmanship of Dr. Mack Shanholtz completed their splendid report updating the visual requirements for Virginia's drivers; the report will be submitted to the General Assembly in 1966. It is hoped that the next session of the General Assembly will again strengthen the now ineffective Implied Consent Law. Col. Woodson has stated the undeniable fact that drinking drivers are involved in one-third of all fatal crashes, and perhaps in one-half if facts were known in all cases.

Your committee advocates the following program; a driver improvement plan for problem drivers; cooperation in the Cornell Automotive Crash Injury Research Project; use of seat belts; and effective Implied Consent Law; strict mechanical inspection of cars and tires; improved highway police control of the inadequate driver and highway slow pokes; an increased highway patrol to deter the habitual traffic offender; a uniform strict judicial action in traffic cases; a program of sharpening driving skills in all drivers; a highway study of dangerous secondary road areas; realistic speed limits on some primary roads; revision of Virginia statutes into conformation with the Uniform Vehicle Code and continued pressure for redesign of automobiles with safety features.

FRANCIS H. MCGOVERN, M.D., *Chairman*
DUPONT GUERRY, III, M.D.
LOUIS P. RIPLEY, M.D.
ROBERT P. IRONS, M.D.
R. D. BUTTERWORTH, M.D.
WILLIAM H. PIFER, M.D.

House

The high cost of living finally caught up with your Committee this year, and, sad to say, it has been impossible to operate and maintain the Headquarters Building within its budget of \$6,800. There were several reasons. First, the necessary refinishing of the ceiling cost considerably more than anticipated. Then, the heating and air conditioning system suffered a breakdown which required major repairs. A consolidation of all insurance policies, while arranged to save the Society in the long run, brought with it a three year premium.

There were some bright spots, however. Two very attractive gas lights were installed in front of the Building—flanking the brick walk. The lights blend perfectly with the Windsor Farms surroundings.

As part of the continuing effort to make the Headquarters ever more attractive and functional, a special appropriation was authorized by Council for the purpose of paneling the Conference Room. This project has been completed.

Your Committee again calls attention to the fact that a portion of the deficit will be covered by the \$1,854.00 contributed toward maintenance by the Virginia Academy of General Practice and Virginia Hospital Association.

A detailed breakdown of our expenses for the first ten months follows:

Janitorial -----	\$ 886.00
Heating & air conditioning service & repair .	304.63
Yard maintenance -----	650.99
Taxes -----	1,671.88
Insurance (three years) -----	807.00
Cleaning & supplies -----	358.79
Utilities -----	1,010.15
Fuel oil (4,891.3 gallons) -----	695.91
Refinishing ceiling -----	920.00
Painting -----	1,137.00
	<hr/>
	\$8,442.35

Your Committee hopes that those members who have not yet visited their Headquarters will avail themselves of that opportunity during the annual meeting. We believe you will be pleased with what you see.

HARRY J. WARTHEN, M.D., *Chairman*

Cancer

Your Committee met twice during the year and considered a number of matters of interest to all physicians.

A great deal of thought was given to existing requirements for clinic approval. Of particular interest was the question as to whether Radiologists, Pathologists and Surgeons should be board qualified. While this was the rule at one time, it is not a requirement at the moment.

Letters were written to the two clinics which had been under discussion at the previous meeting in which they were given temporary approval. No reply was received from either Warrenton or Radford.

The Committee heard Dr. Eskey, from the State Dental Society, regarding the oral cytology program of that Society. A grant had been obtained from the Public Health Service through June, 1965, in order to put clinics

on throughout the State. He requested backing, and also attendance at the demonstrations in the various areas.

An application from the King's Daughters Hospital at Staunton for approval of their tumor clinic was reviewed. A letter was requested and received from the Augusta County Medical Society endorsing the application. It was moved by Dr. Kight, and seconded by Dr. Jones, that upon adoption of a Constitution, and on election of officers, and also upon receipt of the Staff Roster of the clinic, they be given tentative approval until next meeting of the Committee.

Discussion was carried out concerning the laxity of the follow-up of the tumor clinics, and on the consideration that the clinics are not held in the same respect that they were formally held. Dr. Kight felt that the annual report of the clinic was extremely important and should be kept up to date.

Dr. Southward suggested that perhaps a man in his office could visit the clinics and evaluate them three or four times a year. He requested support of the Committee in his attempts to obtain such an individual. The Committee recommended that he try to obtain such a qualified individual. Dr. Fitchett raised the question as to whether the Committee was qualified to give aid to a clinic should it be requested, and if so, in what form should that assistance be. It was suggested that an attempt be made to obtain information and help as to a reevaluation of the Cancer Program in Virginia. It was suggested by Dr. Jones that the Health Education and Welfare Department be contacted in order that advice be obtained for the Committee.

At Dr. Fitchett's suggestion it was decided that, rather than sponsor a meeting as we have done in the past, a committee would be appointed to set up a program with information on what could be done within the State. Dr. Jones would contact Dr. Price of the Chronic Disease Program of the Department of Health Education and Welfare, and notify Dr. Fitchett concerning the individuals who could help us in this situation.

Your Committee also sat in with members of the Cancer Coordinating Committee, representatives of HEW and the U. S. Public Health Service, for the purpose of exploring sources of financial support for a study of cancer controlled problems in Virginia. These problems concern the operation of the eighteen tumor clinics throughout the State. Certain deficiencies were pointed out, and suggestions were heard as to how we might work closer with the Department of Health and local health officers.

The Committee also heard a report concerning a study on epilepsy conducted in North Carolina by the Department of Health, Education and Welfare. The type of report was considered very good and something which could be used in Virginia.

It was emphasized that a competent investigator, familiar with the problems of cancer control, would be necessary to instigate and head up such a project. It was also brought out that someone trained in public health work would be the proper person to correctly channel the collected data.

This particular session was well received, and it was planned to hold similar meetings in the future.

CLAIBORNE W. FITCHETT, M.D., *Chairman*

Mental Health

The Committee on Mental Health met on April 6th and on July 9th.

During the first meeting the Committee received the report that the First Virginia Congress on Mental Illness held in Arlington, Virginia, February 25 and 26, 1965, which was endorsed by the Committee on Mental Health, could be considered an outstanding success. There were approximately two hundred registered for the Congress, and eighteen local medical societies were represented.

The chairman of the Committee gave a report of the Eleventh Annual Conference of State Medical Society Mental Health Representatives which he attended in Chicago on March 5 and 6, 1965. The first day the program was devoted to "Insurance Coverage for Psychiatric Illness". It was the unanimous opinion of the representatives attending this Conference that although progress has been made, much work is yet to be done before adequate coverage for psychiatric illness is uniformly included in all policies written for health insurance. The second day's program consisted of reports on specific aspects of state medical health activities.

On April 24th, a seminar entitled Psychiatry for the General Practitioner was held at Westbrook Psychiatric Hospital in Richmond. This seminar was sponsored by the Virginia Academy of General Practice, The Mental Health Committee of The Medical Society of Virginia, and The Neuropsychiatric Society of Virginia. The attendance by the general practitioners indicated a growing interest in the psychiatric patient. The moderator was William Sheely, M.D., Chief, American Psychiatric Association General Practitioner Education Project, Washington, D. C. Beverley T. Mead, M.D., Chairman, Department of Psychiatry, Creighton School of Medicine and Director of Psychiatric Services, Creighton Memorial Saint Joseph Hospital, Omaha, Nebraska, spoke on "Psychotherapeutic Techniques for Every Physician". Charles R. Vernon, M.D., Clinical Associate Professor, Department of Psychiatry, School of Medicine, University of North Carolina, and Director of Community Mental Health Services for the State Department of Mental Health in North Carolina, gave a demonstration of interviewing technique. Hiram W. Davis, M.D., Commissioner, Department of Mental Hygiene and Hospitals, Richmond, Virginia, discussed commitment procedures.

There was a report on the A.M.A. Second National Congress on Mental Illness and Health held in Chicago, Illinois, November 5-7, 1964, which was attended by three members of the Committee. The Congress was comprised of an opening plenary session, followed by two days of workshop sessions devoted to Criteria and Priorities, Enlisting Community Support, Manpower, Coordinating Mechanisms, Psychiatric Hospitals, The Role of the Private Practitioner, Alcoholism and Addiction, Emergency Services and After-care, Children and Family Clinics, Community Mental Health Centers, et al. Since each geographical area and community mores differed so markedly, there was enormous variability in problems and solutions.

Other topics that came under consideration of the Committee at its first meeting were:

1. Limitations imposed on state hospitals where charging for patient care is concerned. It was agreed that

a cost breakdown on different categories of patients is needed.

2. Virginia laws versus Maryland laws dealing with defective delinquents.
3. Privileged communications for psychiatrists and their patients. It was felt that the current privileged communication laws in the State of Virginia are not very satisfactory.

It was the consensus of the Committee that all the above topics should receive further study with the hope that eventually The Medical Society of Virginia would take an active part in recommending legislation to improve or correct these problems.

The Committee was pleased to learn that its request for a place on the program of the Annual Meeting of The Medical Society of Virginia had been approved. A speaker who will discuss some phase of mental health in Virginia has been obtained.

The second meeting of the Mental Health Committee was devoted largely to the discussion of The Virginia Mental Health Study Commission's report which has recently been released. It was unanimously agreed by the Committee that the report contains information outlining the available facilities, the problems and needs of Virginia with regard to mental health. It was further agreed that its conclusions and recommendations will, if implemented, have an over-all beneficial effect with regard to improving services for the mentally ill, mentally retarded, and emotionally disturbed in Virginia. The Committee on Mental Health wishes to propose the following resolutions:

BE IT RESOLVED that The Medical Society of Virginia endorses in general the report of the Study Commission and commends it to the attention of each member of The Medical Society of Virginia.

BE IT FURTHER RESOLVED that The Medical Society of Virginia recognizes that mental illness, mental retardation, and emotional disturbances represent a major health problem throughout the Commonwealth of Virginia and it further recognizes that present facilities, personnel, and funding are inadequate to provide a full range of treatment and services to all persons requiring assistance, and with the above knowledge The Medical Society of Virginia pledges its support for any legislation that is necessary for financial support to correct this situation and bring Virginia up from the forty-fifth position among the states in its care and treatment of the mentally ill.

The chairman wishes to express to the remainder of this Committee and to Mr. Robert I. Howard, Executive Secretary, his appreciation for their cooperation and assistance in the formulation of this report.

JOHN R. SAUNDERS, M.D., *Chairman*
W. D. BUXTON, M.D.

ROBERT C. LONGAN, JR., M.D.
JOSEPH R. BLALOCK, M.D.
EMORY F. HODGES, JR., M.D.
SAMUEL S. MORRISON, M.D.
R. TERRELL WINGFIELD, M.D.
IRA L. HANCOCK, JR., M.D.
ROBERT B. NEU, M.D.
ROBERT H. THRASHER, M.D.

Liaison to United Mine Workers' Welfare and Retirement Fund

Your Committee has another negative report to make. We have received no reports or complaints either from the members of the Society or from the United Mine Workers Welfare Fund. Therefore, we have had no meetings this year.

Your Chairman has personally conferred with Dr. Allen Koplin on several occasions and our relationship continues to be quite harmonious and it is hoped that they will continue to be so.

JAMES M. PEERY, M.D., *Chairman*

Aging and Chronically Ill

Your committee has met formally with the Liaison Committee with the State Department of Welfare on March 28, 1965, to discuss the implementation of the Kerr-Mills Bill for the State of Virginia and concurred in the general idea that the Department of Welfare would set up a fee schedule which would seem satisfactory for in-patient care as well as out-patient care. Your committee chairman has been watching the scene in Washington with increasing alarm and by the time this report is published a Medicare Bill may have already been passed by our national government.

Your chairman addressed the Conference of Social Work here in Richmond at the John Marshall Hotel April 28th on the subject of "Medicare is Fedicare", and we were agreeably pleased with the response. The insurance industry was represented and it seemed to be that the welfare people themselves are becoming aware of the dangers attendant to the administration's comprehensive Medicare program.

Your chairman also addressed the Montgomery County Medical Society May 13th at Charlottesville, on the dangers of the Medicare program and was invited to have this paper published in the Virginia Medical Monthly, and the society felt it might be well to send a reprint to the P.T.A.'s of the State so as to have as broad coverage among the laity as possible.

Your committee will continue to watch with diligence any measures which affect the aging and chronically ill and will be happy to accept suggestions from any member of the Society for further implementation of our committee's work.

JOHN P. LYNCH, M.D., *Chairman*
H. B. MULHOLLAND, M.D.
MACK I. SHANHOLTZ, M.D.
MALCOLM H. HARRIS, M.D.
JAMES MACMILLAN, M.D.
JOHN E. ROBERTS, M.D.

Walter Reed Commission

The Walter Reed Birthplace property and grounds are being maintained in good condition by the Walter Reed Community Improvement League.

The new signs and new parking area have made the property easier for visitors to locate and visit and your commission is planning to install a special door that will allow visitors to view the inside of the building without undue risk of vandalism to the building.

Your commission has written letters to the Department of the Interior and to Colonial Williamsburg suggesting that the Walter Reed Shrine be included in the promotional literature and films being prepared to further the development of a scenic parkway through Virginia.

RAYMOND S. BROWN, M.D., *Chairman*
THOMAS E. SMITH, M.D.
STERLING N. RANSONE, M.D.

Advisory to Medical and Allied Organizations

It has not been necessary for this committee to meet this past year.

We have continued our work with the Health Careers Committee of the Virginia Council on Health and Medical Care. This committee presents a slide talk on 19 different health careers. This past school year this program has been presented to 164 groups, consisting of 64,800 students, mostly high school. Requests for additional information have been received from 2,163 of these students, 160 of whom requested more data on medicine as a career.

We shall continue to work actively with this organization.

J. SHELTON HORSLEY, III, M.D., *Chairman*
WILLIAM T. CLARKE, M.D.
RUSSELL V. BUXTON, M.D.
ROBERT J. FAULCONER, M.D.
WILLIAM B. BROWN, M.D.

Medicine and Religion

In 1964, The Medical Society of Virginia appointed a committee on Medicine and Religion for the first time. This committee had its first meeting at the Society headquarters January 22, 1965. Attending this meeting in addition to the committee members were Dr. McLemore Birdsong, president of the Society, and Mr. Arne Larson, representing the Department of Medicine and Religion of the American Medical Association. This department of the AMA was formed in 1961 with the primary objective being to improve the total care of the patient through bringing together on a local level physicians and clergymen of all faiths for the study and discussion of their problems of mutual concern relating to the total welfare of the patient and his family. This program has grown rapidly over the country, both in local society meetings between clergymen and physicians, medical school programs, theological seminary programs and other means of promoting better physician relationship.

In a general discussion of implementing this program in the State of Virginia, this committee decided to limit formation of local committees and programs to several of the large cities, namely: Richmond, Norfolk, Lynchburg, Alexandria, and Roanoke. As these committees become established and develop experience, further expansion will then be undertaken in other local societies.

It was also decided to invite Dr. Paul McCleave, Director of the AMA department of Medicine and Religion, to speak before the House of Delegates annual meeting in October to further inform the local society representatives of this program. It was the conclusion of this committee that there is a definite need for efforts in improving the relationship and understanding between physicians and clergymen of all faiths in order to better

cooperate in the common goal of treating the physical, spiritual, mental and social ills of our patients.

ROBERT S. HUTCHESON, JR., M.D., *Chairman*
PHILIP AUSTIN, M.D.
CHARLES R. RILEY, M.D.
HARRY M. FRIEDEN, M.D.
JAMES E. SNEAD, M.D.
JOHN W. DAVIS, JR., M.D.
THOMAS MURRELL, M.D.

National Emergency Medical Service

We have been fortunate in that we have had no emergencies requiring action by your committee during the past twelve months. Your committee held a joint meeting with the Planning Committee of the Virginia Hospital Association to discuss the Packaged Disaster Hospital, Medical Self-Help Training, shelter management, radiological fall-out and monitoring, and hospital disaster planning.

The Medical Self-Help Training Program has completed 1,537 classes with 23,056 persons being trained. This program is expanding each month.

At the present time there are 45 Packaged Disaster Hospitals stored in Virginia, 11 of which are the latest model units. The remaining 34 have been up-dated in supplies and equipment bringing them to the operating capability of thirty days. This medical stockpile, the responsibility of the State Department of Health, is valued at over \$2,000,000.

In the past year the Emergency Medical Services manual and both registered and practical nurses manuals have been revised and published.

Training of personnel continues. Refresher courses continue for nurses and sanitarians, and many nursing schools here included Disaster Nursing in their curriculum.

W. R. SOUTHWARD, JR., M.D., *Chairman*
C. R. RILEY, M.D.
E. CATO DRASH, M.D.
MEYER I. KRISCHER, M.D.
D. COLEMAN BROOKER, M.D.
D. J. CRACOVANER, M.D.
W. F. WELLER, M.D.

Rehabilitation

The Committee on Rehabilitation, which serves also as the Advisory Committee to the State Department of Vocational Rehabilitation, did not meet as a group during the year.

Individual committee members continued to provide consultative service to the professional staff of the Agency on rehabilitation cases involving complicated medical problems and in the establishment of medical fees. Professional guidance by the committee has been given in the development of new procedures and policies concerned with the provision of physical restoration services for eligible handicapped individuals.

The full committee did not meet due to the fact that a new State Department of Vocational Rehabilitation was being organized as a result of legislative action during the 1964 session of the General Assembly which created

the Virginia Board of Vocational Rehabilitation, and thus removing Rehabilitation Service as a Division from the State Department of Education.

On June 15, 1965, the Board announced the appointment of Mr. Don W. Russell to serve as Commissioner of the Department. Mr. Russell comes to Virginia from the Directorship of the Arkansas Rehabilitation Service after having served in this capacity since 1954 and having served with the Agency since 1942. He has earned national recognition for his work on behalf of the disabled. The Medical Advisory Committee welcomes him to Virginia.

ROY M. HOOVER, M.D., *Chairman*

LEROY SMITH, M.D.

G. S. FITZ-HUGH, M.D.

F. J. WRIGHT, JR., M.D.

J. TREACY O'HANLAN, M.D.

JAMES L. THOMSON, M.D.

J. R. BLAYLOCK, M.D.

RENO PORTER, M.D.

CHARLES L. SAVAGE, M.D.

FRANK B. STAFFORD, M.D.

W. KYLE SMITH, M.D.

ALEXANDER MCCAUSLAND, M.D.

CARNEY C. PEARCE, JR., M.D.

Alcoholism

Attending a "social hour" nowadays and not partaking of alcohol tends to make one feel like "a pagan suckled in a creed outworn". Ours has largely become an alcohol-dependent society. Gone are the leisurely days of relaxing with an appetizer before dinner, replaced by the "on signal" drinking of the present day. Golf, bridge, luncheons, dinners, get-togethers of all sorts must be "punctuated" by alcohol. We are all so "status conscious" that, as one authority on mental health expressed it, we are "out of status" if we do not drink alcoholic beverages. The big gun of status seekers is the cocktail party, previously referred to (in an earlier annual report) as the "sine qua non" for climbing the social ladder. Most of us are pleasure-bent; no one should begrudge another his innocuous pleasures. The use of alcohol to the point of "feeling it", however, makes for negation of responsibility. More and more automobile accidents are "alcohol-flavored", if not actually "alcohol-caused".

The number of people requiring psychiatric counseling because the overuse of alcohol has broken up the home is greater each year. Regardless of these facts, the consumption of alcohol is steadily increasing and there are more new alcoholics every year. Whisky advertisements appear in all leading news magazines. Professional athletic teams are largely owned by beer, wine or whisky magnates. TV sponsorship plays up the grace and ease of living when one learns that the art and sophistication of life are enhanced by the use of alcoholic beverages. A thoughtful person can but wonder where we are headed!

"The world is too much with us." We have given our hearts away, yet we are more restless and unhappy than ever before. Emotional immaturity, yes, but this does not explain the greater per capita use of alcohol as we ascend the scale of educational level. Fortunately, there

is more and more emphasis on alcohol education in current magazines. Every week an article on alcoholism appears in one or more such publications. Newspapers occasionally run a series of articles on the dangers of alcohol as used by modern society.

Our national image is that of a country wherein the average adult citizen uses alcohol beverage without regard to its potential dangers, since he concentrates on status symbols. Greater income and more leisure time doubtless contribute to the use of alcohol in quest of status.

The trend in Virginia, for the most part, follows the national trend. DASR (our Division Alcohol Studies and Rehabilitation) at the Medical College of Virginia and the University of Virginia stays busy, but after all, this is only a pilot study, not a realistic or effective meeting of the numerical need of the alcoholic population. Until our legislators give us, as a minimum, our 100-bed hospital for alcoholics, we are drifting downstream "marking time". The average citizen is woefully ignorant of the momentous problem, posed by alcoholism. Alcoholics Anonymous (and its ancillaries, Al-Anon and Al-Ateen), is making valiant efforts on those few who present themselves at its doors and cooperate with its uplifting program, the success of which has sometimes incited the jealousy of a few psychiatrists. The "mature" psychiatrist attends AA meetings and studies its effectiveness firsthand. Physicians and ministers do not avail themselves of this rescue station from alcoholism as frequently as they should. Unfortunately, of those referred to AA, only about ten (10%) per cent take the program seriously. The AA "constitution" consists of the 12 steps to sobriety and serenity. The "13th step" is said to be for those (90%) who pay little or no attention to the other twelve. In addition to the ten (10%) per cent who become active in AA, there are some twenty (15-25%) per cent whose "sprees" become less severe and farther apart. The medical profession needs to cooperate with this wonderful organization which "opens the gates of hell and lets some poor unfortunates out." (The quote here is from a talk by an alcoholic with 17 years of sobriety and considerable serenity.)

This same alcoholic speaker stated that we must learn that "we cannot drown our troubles in alcohol; the darn things learn to swim." Ministers have expressed a similar thought this way: "we cannot dissolve our troubles; we must learn to resolve them."

Most of us who are members of The Medical Society of Virginia and those of us who are delegates know that we are faced with a problem which has no popular solution. There is no cure for alcoholism. It can be controlled or arrested, however. As long as the incidence of alcoholism is higher among physicians and attorneys than it is in the population at large, it is obvious that the members of these professions are, as a whole, not going to take any serious steps toward the reduction of alcoholism. Many physicians and attorneys have become alcohol-dependent, as has the society in which they practice. Even at our state medical society meetings, we linger so long over the cocktails in the caucus rooms that we dispense with such "trivia" as the reading of the annual report of the committee on alcoholism.

May we give thoughtful consideration to the enormity of the problem of alcoholism is the wish of this committee!

WILLIAM S. SLOAN, M.D., *Chairman*
JAMES ASA SHIELD, M.D.
EBBE C. HOFF, M.D.
WILLIAM F. GIBBS, M.D.

Liaison to State Bar

Your Committee has held several meetings pursuant to matters brought before it during the past year. Its service to The Medical Society of Virginia as a Screening Panel against mal-practice actions has been reduced by virtue of the attitude of certain defendant attorneys to the use of the Panel. The Committee continues of the opinion, expressed in its annual report last year, viz., that its effectiveness is being materially reduced by this attitude on the part of defendant attorneys which we are not able to change. If allowed to continue, it may well negate any positive benefits otherwise available through the services of this Panel. After repeated consideration, the Committee feels that the welfare of the defendant physician would not be jeopardized in any degree if the rules of the Panel were changed to permit the appeal to the Screening Panel by the plaintiff, when the consent of the defendant counsel could not be obtained. (This opinion is held because of our conviction that in the event such a case was to be heard, the defendant attorney would not dare risk not attending. We continue of the conviction that no more favorable consideration is available to any member of the medical profession than he could expect from professional men familiar with all sides of the problem presented.)

The several cases referred to the Panel have been heard apparently to the satisfaction of the parties involved. The past record of the Screening Panel has been maintained, in that the decisions in every case have been unanimous.

At the request of the Council, the Virginia Bar Association was asked to reconsider the wording of the Joint Screening Panel agreement in which reference was made to the "plaintiff's witness" in the event the Panel found that grounds might exist for mal-practice action. Acting in support of this request, the Liaison Committee of the State Bar recommended that this be done. Approval was granted for this re-wording at the May meeting of the Virginia State Bar Association. The second sentence of the second paragraph, page 6, would now read: "The Medical Society will cooperate fully with the parties in retaining a physician or physicians qualified in the field of medicine involved, who will consult with and testify on behalf of the parties, upon his payment of a reasonable fee, to the same effect as if the said physician or physicians had been engaged originally by the party.

In discussing this change with your Committee, it was explained that any other change could not be made under existing Virginia Statutes, if the effectiveness of the intent were to be preserved. It is the recommendation of your Committee that this change in wording be approved by The Society.

The Committee would like to call the attention of the membership to the fact that the Screening Panel is not the only service rendered by this Committee. The mem-

bers of The Medical Society of Virginia have brought several matters to your Committee which have been discussed with the complementing committee from the State Bar. These have specifically concerned the adequacy of the Statutes in the State relative to privileged communication and a matter in which an attorney was involved in failure to account to the physician for the services rendered his client at his request. This latter matter has previously been covered by the State Bar in its adoption of principles to govern the relationship between an attorney and a member of the medical profession. As this becomes better understood by both professions, it should prove more effective.

We further feel, that the value of this Committee through its mere existence to the profession in the field of public relations should not be underestimated. While utopian, it is, nevertheless, our hope that if allowed to continue and grow, the climate may be developed in the State of Virginia whereby no responsible attorney would consider filing a mal-practice action without previous consideration by the Screening Panel. From a standpoint of practicality, it appears to the Panel that no defendant attorney, having been advised or found against, would delay any reasonable settlement. It is, therefore, our hope that mal-practice suits would become virtually unknown and the exorbitant awards, which are occurring in other states, would not become a fact in Virginia.

The following recommendations are offered:

I. That the provisions regarding submission of a case to the Screening Panel be changed to permit the submission of a case by the Plaintiff without the agreement of the Defendant, in the event that this could not be obtained.

II. Approval be given to the change in the wording of the agreement (Page 6, Paragraph 2) relative to the actions of the Screening Panel, in conformity with the change effected by the State Bar.

III. That the full opportunities available to the membership through the existence of this Committee be made known within the Society and to the public at large in order that its effectiveness to the medical profession in Virginia may be increased.

JOHN O. BOYD, M.D., *Chairman*
WILLIAM A. READ, M.D.
WILLIAM DOLAN, M.D.
G. T. MANN, M.D.
CARRINGTON WILLIAMS, JR., M.D.
GEORGE M. NIPE, M.D.
CHARLES W. WHITMORE, M.D.
CHARLES J. FRANKEL, M.D.

Liaison to State Nurse Examiners and Organized Nursing

One week after the October Meeting of The Medical Society of Virginia in Norfolk, the chairman of this committee spoke before the Virginia Nurses Association carrying to them the request of the Society that a joint committee be formed to study the Prangely Plan for increasing the number of bedside nurses in Virginia. A copy of this address to the nurses was submitted at once for publication in the Virginia Medical Monthly, in an effort

to inform the membership of our efforts but, as of August 1, 1965, has not yet been published. In any case, in due course, the nurses accepted our request and Mr. Howard arranged for a joint committee meeting consisting of representatives of organized nursing, the nurse examiners, hospital administration and The Medical Society of Virginia. This conference was held in February 1965 in Richmond; after a thorough discussion, the consensus was that effort should be directed towards improving the educational program for practical nurses and increasing their number rather than to add a new category as was suggested by Mr. Prangely.

With these thoughts in mind, the nurses again met in May in Charlottesville and held a panel discussion, arranged by the Nurse Examiners, at which this committee and this Society were well represented by Drs. John Lynch and Dan Mohler. It is my impression that the nurses have arrived at the view that something must indeed be done to increase the quantity and quality of nurses in Virginia and that they intend to take the initiative in this matter. To date, their specific plans have not been revealed to us. In any case, it would appear that our efforts in this year will probably bear useful fruit.

For the record, the chairman of this committee is invited to participate in the second ANA-AMA Conference in Denver in September, the object of the discussion being to improve patient care by better physician-nurse cooperation.

JOHN R. MAPP, M.D., *Chairman*

JOHN P. LYNCH, M.D.

JAMES M. MOSS, M.D.

BRADFORD S. BENNETT, M.D.

DANIEL N. MOHLER, M.D.

Medicare Advisory

Two meetings were held by your Committee during the year. Approximately 40 cases were reviewed—a slight decrease from last year.

At the present time, an effort is being made by the Department of Defense to amend the Medicare fee schedule. Your Committee has insisted that any amendments be reasonable and realistic. It is difficult to predict, at this time, what the final outcome will be.

As in the past, we consider it of the utmost importance to urge all physicians to charge their usual fees. Only in this way can the program function smoothly and avoid the delays which necessarily result from Committee review.

W. LINWOOD BALL, M.D., *Chairman*

Maternal Health

The Committee on Maternal Health met on March 30, 1965, at the Commonwealth Club in Richmond.

A subcommittee consisting of Dr. Mason Andrews, Chairman, Dr. Norman Thornton, and Dr. James Dunne was appointed to look into and to set up a coding procedure for maternal deaths. This committee was appointed for the primary purpose of making readily available the information procured by the whole committee on maternal deaths.

A good deal of discussion was centered around the need for and the reason for the completing of fetal death rec-

ords now required by the Bureau of Vital Statistics. It was brought out that Mr. Huxtable of the Bureau had previously gone into great detail relating to the need and importance of such reporting.

Requests from the chairman of the Committee on Fetus and Newborns asking this committee to suggest how his committee could better implement its activities were presented. Since no one on the Committee on Maternal Health was familiar with the origin and function of the inquiring committee, it was decided to obtain additional information.

It was decided to invite the chairman of the Committee on Child Health to attend our next regular meeting. This is intended to promote a closer working relationship between these two inter-related committees.

A review of the statistics on maternal deaths from 1958 to 1960 was presented by Dr. Mason Andrews. This presentation pointed up the basic function of the Committee on Maternal Health and indicated the need for a uniform and readily available coding system of these deaths. Thirty-four maternal deaths were reported in 1964, for a maternal death rate of 3.5 per 10,000 live births. This is a decrease from the forty-two deaths and the rate of 4.3 per 10,000 live births in 1963. Ten of the deaths had no hospital care. In Dr. Andrews' report on his study of the three year statistics, it was brought out that the 70% of the maternal deaths were classified as preventable by the members of this committee.

Since the members of this committee represent The Medical Society of Virginia in investigating, tabulating, and reporting on maternal deaths in this State, it was deemed advisable to have an official statement from the Society, for each member, stating that he is such a representative, which he can present to the various physicians and hospitals during the course of his investigation of maternal deaths.

Discussion concerning requests from various hospitals from time to time relating to permission to allow gynecological patients to be placed in the obstetrical area elicited the unanimous opinion of this committee that the present laws relating to this subject should be strictly adhered to. Relative to this subject, the chairman and secretary of this committee met with representatives of the Virginia Hospital Association and the State Health Department on April 21, 1965, to discuss the impact of the recent bulletin from the Joint Commission on Accreditation of Hospitals modifying their stand on the segregation of obstetrical patients. The feelings of the committee were relayed to these gentlemen, and it was pointed out that the present Virginia law is very specific in this regard. Furthermore, there is a clear statement in the bulletin from the Joint Commission stating that their recommendation is in no way intended to abrogate present state and/or city laws relative to this matter.

JOSEPH C. PARKER, M.D., *Chairman*

Continuing Education

The first formal meeting of the Committee on Continuing Education was held in Richmond during March. It was held at Society Headquarters and attended by Dr. James C. Respass, Chairman, Dr. Charles E. Davis, Dr. Waverly R. Payne, and Dr. Hunter H. McGuire, Jr. Also

in attendance was Mrs. Cynthia Warren, Assistant Executive Director, Virginia Council on Health and Medical Care.

Following a brief discussion concerning just how many meetings the Committee might be expected to hold during the year, it was determined that a Vice-Chairman should be elected. Dr. McGuire was nominated and elected unanimously.

Dr. Respass stated that a central registry of scientific meetings had been proposed and that The Medical Society of Virginia Headquarters seemed to be the logical place for it to be maintained. It was agreed that such a registry could serve a real purpose. It was pointed out, however, that certain safeguards must be taken in order to make it truly workable. For example, a registry could become much too large if definite controls were not established. Brought out also was the fact that it must be adequately publicized to physicians over the State and maintained in a reasonably complete manner. This would mean that every effort must be made to avoid conflicts with non-scientific functions as well as the purely scientific events.

It was suggested that a calendar of events be published monthly in the Virginia Medical Monthly. Events to be covered would be those which would be attractive to physicians living outside a radius greater than twenty-five miles from the point of presentation.

A suggestion was also made that, in addition to the membership, all hospitals, specialty groups and health associations be advised concerning the registry.

Mrs. Warren acquainted the Committee with a similar registry planned by the Virginia Council on Health and Medical Care. She stated that the Council works with

many different types of organizations and feels that it could provide a real service by compiling and maintaining a health services directory and also a registry for meetings of all kinds. It was learned that the Council's registry would be of a much broader nature than that proposed for The Medical Society of Virginia.

After discussing the Council proposal at some length, it was agreed that there would be no real conflict. In fact, there seemed to be every reason to believe that the two registries would complement each other.

The Committee then considered whether an annual meeting of directors of continuing education might be of value. Brought out was the fact that every hospital with interns and residents is supposed to have such a director. A suggestion was made that such a meeting be held in conjunction with the Annual Meeting of The Medical Society of Virginia—preferably on Sunday afternoon.

It was agreed that a Program Committee should be named and Dr. Respass agreed to appoint one in the very near future. The Program Committee will be responsible for setting up the first meeting of directors of continuing education on Sunday afternoon, October 10. The meeting will be held at Richmond's Hotel John Marshall, and the program will provide the exact time and room location.

JAMES C. RESPASS, M.D., *Chairman*
HUNTER H. MCGUIRE, JR., M.D.
WAVERLY R. PAYNE, M.D.
KENNETH W. BERGER, M.D.
CHARLES E. DAVIS, M.D.
JOHN C. HORTENSTINE, M.D.
MICHAEL J. MOORE, M.D.
JOHN W. DEVINE, JR., M.D.
WALTER C. FITZGERALD, M.D.

DELEGATES TO THE 1965 MEETING THE MEDICAL SOCIETY OF VIRGINIA

Where no name is listed it is indicative that no delegate or alternate was reported in time for publication.

<i>Delegates</i>	<i>Alternates</i>
Accomack	
Dr. Walter A. Eskridge	Dr. Donald F. Fletcher
Albemarle	
Dr. John L. Guerrant	Dr. Cary N. Moon, Jr.
Dr. J. R. Morris	Dr. Frank E. Taylor
Dr. W. Copley McLean	Dr. William B. Pollard
Dr. Daniel N. Mohler	
Dr. George D. Spence	
Dr. James C. Respass	
Alexandria	
Dr. John C. Watson	
Dr. James M. Moss	
Dr. F. Preston Titus	
Alleghany-Bath	
Dr. Wallace C. Nunley	Dr. Charles F. Ballou, III
Dr. George N. Chucker	Dr. Alvin W. Finestone
Dr. Donald S. Myers	Dr. Meade C. Edmunds, Jr.
Dr. Ed. M. Bowles, Jr.	Dr. William P. Fletcher
Dr. Louis A. Houff	Dr. James P. Harnsberger
Amherst-Nelson	
Arlington	
Dr. Sidney A. Tyroler	Dr. William D. Dolan
Dr. Joseph O. Romnes	Dr. John J. Nolan
Dr. W. Leonard Weyl	
Dr. Robert B. Neu	
Augusta	
Dr. J. Treacy O'Hanlan	Dr. Boyd H. Payne
Dr. Wm. G. Painter, Jr.	Dr. Charles L. Savage
Dr. Theron R. Rolston	Dr. James A. Higgs, Jr.
Bedford	
Botetourt	
Buchanan-Dickenson	
Dr. Charles E. Hess	Dr. Ralph W. Hess
Dr. Bradley D. Berry	Dr. J. C. Moore
Charlotte	
Culpeper	
Danville-Pittsylvania	
Dr. Ralph Landes	Dr. Walter C. Fitzgerald
Dr. Francis McGovern	Dr. Baxter Byerly

<i>Delegates</i>	<i>Alternates</i>
Fairfax	
Dr. Kenneth Berger	Dr. Carl E. Crimm
Dr. Henry T. Kulesher	Dr. T. B. McCord
Dr. C. Barrie Cook	Dr. William R. Reardon
Dr. Carl P. Parker	Dr. Peter Soyster
Dr. John Prominski	Dr. J. D. Zylman
Fauquier	
Floyd	
Dr. F. Clyde Bedsaul	Dr. Ernest E. Moore
Fourth District	
Dr. James L. Hamner	Dr. James T. O'Neal
Dr. Clyde G. O'Brien	Dr. Earl M. Bane
Dr. William B. Bishop	Dr. Charles C. Ashby
Dr. Robert S. Smith	Dr. John S. Prince
Dr. R. C. Allison	Dr. Emerson D. Baugh, Jr.
Dr. H. B. Showalter	Dr. C. C. Nuchols
Dr. William A. Shelton	Dr. A. Epes Harris, Jr.
Dr. Robert W. Bradley	Dr. Ray A. Moore, Jr.
Dr. C. W. Scott	Dr. Kasper Kaufman
Dr. Anthony J. Munoz	Dr. John G. Easterling
Dr. Maurice S. Rosenberg	Dr. William Grossman
Dr. Ronald E. Miller	
Dr. Joseph P. Whittle	
Fredericksburg	
Halifax	
Hampton	
Hanover	
James River	
Lee	
Loudoun	
Louisa	
Lynchburg Academy	
Dr. Joseph L. Platt	Dr. Edward J. Stoll
Dr. Charles W. Whitmore	Dr. P. R. Bryan
Dr. J. W. Davis, Jr.	Dr. J. E. Mathias
Mid-Tidewater	
Dr. A. L. Van Name, Jr.	Dr. D. E. Andrews
Dr. J. W. Chinn	Dr. Harold Felton
Dr. Carl A. Broaddus	Dr. G. V. Jackson, Jr.
Dr. W. H. Hosfield	Dr. Edward F. Kearney
Dr. Shirley C. Olsson	Dr. Raymond S. Brown
Dr. Thomas E. Smith	
Dr. R. B. Bowles	
Dr. M. H. Harris	

<i>Delegates</i>	<i>Alternates</i>
Newport News	
Dr. E. B. Mewborne	Dr. D. J. Cracovaner
Dr. Sam. H. Mirmelstein	Dr. T. C. Lawford
Dr. John Q. Hatten	Dr. I. F. Nesbitt
Dr. Russell Buxton	Dr. R. T. Peirce, Jr.
Norfolk	
Dr. R. Bryan Grinnan, Jr.	Dr. Frank N. Bilisoly
Dr. Alter Laibstain	Dr. Robert Gahagan
Dr. Robert J. Faulconer	Dr. George Rector
Dr. Mallory S. Andrews	Dr. Patrick Devine
Dr. Robt. L. Payne, Jr.	Dr. Robert Morton
Dr. Claiborne W. Fitchett	Dr. Howard Kruger
Dr. William S. Hotchkiss	
Northampton	
Dr. John R. Mapp	Dr. W. F. Bernart
Northern Neck	
Dr. Horace E. Kerr	Dr. Lloyd T. Griffith
Dr. Paul C. Pearson	Dr. Harold E. Sisson
Dr. A. B. Gravatt, Jr.	Dr. J. Motley Booker
	Dr. H. W. Goode, Jr.
Northern Virginia	
Dr. Wm. B. Crawford, Jr.	
Dr. J. P. Snead, Jr.	
Dr. Carroll H. Iden	
Dr. E. L. Hopewell	
Dr. J. P. Snead, IV	
Dr. James R. York	
Orange	
Patrick-Henry	
Dr. Ed. T. McNamee, Jr.	Dr. Nelson Fox
Dr. Leslie Faudree	Dr. Bate C. Toms, Jr.
Dr. William D. Lewis	Dr. Harry C. Foster, Jr.
Portsmouth	
Dr. Neil Callahan	Dr. R. M. Campbell
Dr. William S. Terry	Dr. R. M. Cox
Prince William	
Richmond Academy	
Dr. William R. Hill	Dr. John A. Board
Dr. Daniel D. Talley, III	Dr. T. R. Butterworth, Jr.
Dr. Carl W. Meador	Dr. B. Noland Carter, II
Dr. Earnest B. Carpenter	Dr. Herbert A. Claiborne, Jr.
Dr. J. Warren Montague	Dr. Joseph W. Cox, III
Dr. E. Randolph Trice	Dr. T. Dewey Davis, Jr.
Dr. Rex Blankinship	Dr. Robert K. Duley
Dr. Wm. H. Higgins, Jr.	Dr. George E. Ewart
Dr. W. T. Thompson, Jr.	Dr. Homer E. Ferguson
Dr. Thomas P. Overton	Dr. William R. Mauck
Dr. Thomas P. Stratford	Dr. Robert E. Mitchell, Jr.
Dr. Robley D. Bates, Jr.	Dr. William W. Regan
Dr. James O. Burke	Dr. Raymond A. Adams
Dr. Frederick H. Savage	Dr. William C. Barr

<i>Delegates</i>	<i>Alternates</i>
Roanoke Academy	
Dr. Richard H. Fisher	Dr. Franklin Angell
Dr. George S. Hurt	Dr. Gordon G. Carmichael
Dr. Frederick M. Jacobs	Dr. G. G. Gooch, III
Dr. Robert L. Keeley	Dr. William P. Tice
Dr. John A. Martin	Dr. Philip C. Trout
Dr. Charles A. Young	Dr. Alfred L. Wolfe
Rockbridge	
Dr. Lewis A. Micou	Dr. O. H. McClung, Jr.
Dr. Dirk Enthoven	Dr. F. A. Feddeman
Rockingham	
Dr. George M. Nipe	
Dr. John T. Glick, Jr.	
Russell	
Scott	
Southwestern Virginia	
Dr. C. W. Hickam	Dr. George Kelly
Dr. Carl Stark	Dr. C. D. Moore, Jr.
Dr. George B. Kegley	Dr. Walter B. Barton
Dr. M. G. Martin	Dr. J. G. Cox
Dr. O. O. Smith, Jr.	Dr. C. O. Finne
Dr. L. E. Dunman	Dr. J. F. McGuire
Dr. J. Scott Shaffer	Dr. Fred Johnston
Dr. John E. Trevey	Dr. Julian Givens
Dr. David S. Phlegar	Dr. Charles F. Manges
Dr. George W. McCall	Dr. William M. Gammon
Dr. Charles R. Duncan	Dr. James Hal Smith
Dr. Wm. Bryon Waddell	Dr. Thomas R. Jarvis, Jr.
Tazewell	
Dr. R. A. Abernathy, Jr.	Dr. Robert I. Fleming
Tri-County	
Dr. George J. Carroll	Dr. Philip R. Thomas
Dr. Gordon G. Birdsong	Dr. J. E. Bryant, Jr.
Dr. Wm. I. Knight, Jr.	Dr. Don S. Howell
Dr. F. Ivan Steele	Dr. Henry L. Gardner, Jr.
Dr. B. F. Jamison	Dr. Hugh Warren, Jr.
Virginia Beach	
Dr. J. A. White	
Dr. James N. Williams	
Williamsburg-James City	
Dr. Hugh G. Stokes	
Dr. George J. Oliver, Jr.	
Dr. Baxter I. Bell, Jr.	
Wise	
Dr. Pierce D. Nelson	Dr. U. S. Gonzalez
Dr. J. M. Straughan	

Presidents of The Medical Society of Virginia

*Dr. James McClurg, Richmond	1821	*Dr. Paul B. Barringer, Charlottesville	1907
*Dr. William Foushee, Richmond	1822	*Dr. Wm. F. Drewry, Petersburg	1908
*Dr. William Foushee, Richmond	1823	*Dr. Stuart McGuire, Richmond	1909
*Dr. James Henderson, Richmond	1824	*Dr. E. T. Brady, Abingdon	1910
Meetings Discontinued		*Dr. O. C. Wright, Jarratt	1911
*Dr. Robert William Haxall, Richmond	1841	*Dr. Hugh M. Taylor, Richmond	1912
*Dr. Robert William Haxall, Richmond	1842	*Dr. Southgate Leigh, Norfolk	1913
*Dr. Frederick Marx, Richmond	1843	*Dr. Stephen Harnsberger, Catlett	1914
*Dr. Thomas Nelson, Richmond	1844	*Dr. Samuel Lile, Lynchburg	1915
*Dr. William A. Patteson, Richmond	1845	*Dr. Joseph A. White, Richmond	1916
*Dr. William A. Patteson, Richmond	1846	*Dr. Geo. A. Stover, South Boston	1917
*Dr. John A. Cunningham, Richmond	1847	*Dr. Ennion G. Williams, Richmond	1918†
*Dr. William A. Patteson, Richmond	1848	*Dr. Ennion G. Williams, Richmond	1919
	1849	*Dr. Paulus A. Irving, Farmville	1920
*Dr. Robert William Haxall, Richmond	1850	*Dr. Alfred L. Gray, Richmond	1921
*Dr. Beverley R. Wellford, Fredericksburg	1851	*Dr. E. C. S. Taliaferro, Norfolk	1922
*Dr. James Beale, Richmond	1852	*Dr. John Staige Davis, University	1923
*Dr. Thomas P. Atkinson, Danville	1853	*Dr. W. W. Chaffin, Pulaski	1924
*Dr. Carter P. Johnson, Richmond	1854	*Dr. Hunter H. McGuire, Winchester	1925
*Dr. H. C. Worsham, Dinwiddie	1855	*Dr. W. L. Harris, Norfolk	1926
*Dr. H. C. Worsham, Dinwiddie	1856	*Dr. J. Shelton Horsley, Richmond	1927
*Dr. James Bolton, Richmond	1857	*Dr. J. W. Preston, Roanoke	1928
*Dr. Levin S. Joynes, Richmond	1858	*Dr. J. Bolling Jones, Petersburg	1929
Meetings Discontinued		*Dr. Charles R. Grandy, Norfolk	1930
*Dr. R. S. Payne, Lynchburg	1870	*Dr. J. Allison Hodges, Richmond	1931
*Dr. R. S. Payne, Lynchburg	1871	*Dr. I. C. Harrison, Danville	1932
*Dr. A. M. Fauntleroy, Staunton	1872	*Dr. J. C. Flippin, University	1933
*Dr. Harvey Black, Blacksburg	1873	*Dr. R. D. Bates, Newtown	1934
*Dr. A. G. Tebault, London Bridge	1874	*Dr. F. H. Smith, Abingdon	1935
*Dr. S. C. Gleaves, Wytheville	1875	*Dr. P. St. L. Moncure, Norfolk	1936
*Dr. F. D. Cunningham, Richmond	1876	Dr. J. M. Hutcheson, Richmond	1937
*Dr. J. L. Cabell, University	1877	*Dr. G. F. Simpson, Purcellville	1938
*Dr. J. H. Claiborne, Petersburg	1878	Dr. A. F. Robertson, Jr., Staunton	1939
*Dr. L. S. Joynes, Richmond	1879	*Dr. H. H. Trout, Roanoke	1940
*Dr. Henry Latham, Lynchburg	1880	Dr. W. B. Martin, Norfolk	1941
*Dr. Hunter McGuire, Richmond	1881	*Dr. Roshier W. Miller, Richmond	1942
*Dr. G. W. Semple, Hampton	1882	Dr. J. M. Emmett, Clifton Forge	1943
*Dr. W. D. Cooper, Morrisville	1883	*Dr. C. B. Bowyer, Stonega	1944
*Dr. J. E. Chancellor, Charlottesville	1884	Dr. H. B. Mulholland, Charlottesville	1945
*Dr. S. K. Jackson, Norfolk	1885	*Dr. Julian L. Rawls, Norfolk	1946
*Dr. Rawley W. Martin, Chatham	1886	*Dr. W. L. Powell, Roanoke	1947
*Dr. Bedford Brown, Alexandria	1887	*Dr. Guy R. Fisher, Staunton	1948
*Dr. Benjamin Blackford, Lynchburg	1888	*Dr. M. Pierce Rucker, Richmond	1949
*Dr. E. W. Row, Orange C. H.	1889	*Dr. W. C. Caudill, Pearisburg	1950
*Dr. Oscar Wiley, Salem	1890	Dr. C. Lydon Harrell, Norfolk	1951
*Dr. W. W. Parker, Richmond	1891	Dr. John T. T. Hundley, Lynchburg	1952
*Dr. H. Grey Latham, Lynchburg	1892	Dr. James L. Hamner, Mannboro	1953
*Dr. Herbert M. Nash, Norfolk	1893	Dr. V. W. Archer, Charlottesville	1954
*Dr. Wm. P. McGuire, Winchester	1894	Dr. Carrington Williams, Richmond	1955
*Dr. Robt. J. Preston, Abingdon	1895	Dr. James P. King, Radford	1956
*Dr. Wm. L. Robinson, Danville	1896	Dr. James D. Hagood, Clover	1957
*Dr. Geo. Ben Johnston, Richmond	1897	Dr. H. C. Bates, Arlington	1958
*Dr. Lewis E. Harvie, Danville	1898	Dr. W. P. Adams, Norfolk	1959
*Dr. Jacob Michaux, Richmond	1899	Dr. Allen Barker, Roanoke	1960
*Dr. Hugh T. Nelson, Charlottesville	1900	Dr. Guy W. Horsley, Richmond	1961
*Dr. J. R. Gildersleeve, Tazewell	1901	Dr. Russell V. Buxton, Newport News	1962
*Dr. R. S. Martin, Stuart	1902	Dr. Fletcher J. Wright, Petersburg	1963
*Dr. J. N. Upshur, Richmond	1903	Dr. Richard E. Palmer, Arlington	1964
*Dr. Joseph A. Gale, Roanoke	1904	Dr. McLemore Birdsong, Charlottesville	1965
*Dr. Wm. S. Christian, Urbanna	1905		
*Dr. Lomax Gwathmey, Norfolk	1906		

*Deceased.

†Owing to influenza epidemic during World War I, the council met in 1918, and Dr. Williams was continued as President.

Woman's Auxiliary

President-----MRS. W. NASH THOMPSON, Stuart
President-Elect-----MRS. GEORGE W. KELLY, Pulaski
First Vice-President-----MRS. C. SHERRILL ARMENTROUT,
Harrisonburg
Second Vice-President-----MRS. T. E. SMITH, Hayes
Third Vice-President-----MRS. F. PRESTON TITUS, Alexandria
Recording Secretary-----MRS. WILLIAM J. REARDON, McLean
Corresponding Secretary-----MRS. DRAKE PRITCHETT,
Danville
Treasurer-----MRS. ROBERT H. MITCHELL, Arlington
Parliamentarian-----MRS. T. N. HUNNICUTT, JR., Tabb

PROGRAM

of the FORTY-THIRD ANNUAL CONVENTION

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

Richmond, Virginia October 10-13, 1965

Headquarters: Hotel John Marshall

A cordial invitation is extended to all members of the Woman's Auxiliary to The Medical Society of Virginia, their guests, and the wives of physicians attending the convention to participate in all social functions and attend the general meeting of the Auxiliary.

Please register as soon as possible.

Registration Hours

Sunday, October 10 ----- 3:00 P.M. to 6:00 P.M.
Monday, October 11 ----- 9:00 A.M. to Noon
Tuesday, October 12 ----- 9:00 A.M. to 10:00 A.M.

The Hospitality Room will be open during registration hours—

Sunday—Byrd Room
Monday and Tuesday—Washington Room

Sunday, October 10, 1965

4:00 P.M.—Pre-Convention Board Meeting, Colony Room, Hotel John Marshall. All State Officers, Directors, Committee Chairmen, County Presidents and Presidents-Elect are expected to attend.

Mrs. W. Nash Thompson, President, presiding.

Monday, October 11, 1965

9:00 A.M.—Formal opening of the Forty-Third Annual Convention of the Woman's Auxiliary to The Medical Society of Virginia, Virginia Room, Hotel John Marshall.

Mrs. W. Nash Thompson, President, presiding.

Invocation and Memorial Service—Mrs. John R. St. George, Portsmouth, Chaplain

Pledge of Loyalty—"I pledge my loyalty and devotion to the Woman's Auxiliary to the American Medical Association. I will support its activities, protect its reputation and ever sustain its high ideals."

Greetings—Alexander McCausland, M.D., President-Elect, The Medical Society of Virginia, Roanoke

Address of Welcome—Mrs. Reuben Simms, President-Elect, Richmond Academy of Medicine, Richmond

Response—Mrs. Walter A. Porter, Hillsville

Roll Call—Mrs. William J. Reardon, McLean, Recording Secretary

Convention Announcements—Mrs. Robert Irby, Richmond
Presentation of Honored Guests

Mrs. Jordon Kelling, Waverly, Missouri, President, Woman's Auxiliary to Southern Medical Association

Mrs. William H. Thuss, Birmingham, Alabama, Past-President, Woman's Auxiliary to American Medical Association

Report of Credentials Committee—Mrs. Harold Goodman and Mrs. William M. Eagles, Richmond

Report of Committee to approve 1964 Convention Minutes—Mrs. R. L. Norment, Arlington

Auditor's Report—Mrs. F. Preston Titus, Chairman, Alexandria

Remarks of President and recognition of State officers and committee chairmen.

Unfinished business.

New Business.

Recommendations from the Board.

Report of Delegate to the Forty-Second Annual Convention, Woman's Auxiliary to American Medical Association—Mrs. Allan Hall, Chairman, Falls Church.

Final report of Credentials Committee—Mrs. Harold Goodman, Richmond

Report of Nominating Committee—Mrs. James M. Moss, Alexandria

Election of Officers

Installation of Officers—Mrs. William H. Thuss

Presentation of Pin and Gavel—Mrs. W. Nash Thompson
Acceptance—Mrs. George W. Kelly

Presentation of Past-President's Pin—Mrs. James M. Moss
Courtesy resolutions

Adjournment

12:30 P.M.—Luncheon—The Virginia Museum of Fine Arts

6:30 P.M.—Cocktail Party, The Medical Society of Virginia—Colony—Dominion Rooms

7:30 P.M.—Banquet, The Medical Society of Virginia—
Virginia Room

Tuesday, October 12, 1965

8:00 A.M.—Past-Presidents' Breakfast—Byrd Room, John
Marshall

9:30 A.M.—Post-Convention Workshop—Jackson Room
—John Marshall. All new State Officers, Directors,
Committee Chairmen, County Presidents, and Presi-
dents-Elect are expected to attend.

9:30 A.M.—Golf—Country Club of Virginia

10:00 A.M.—Tennis—Country Club of Virginia

2:00 P.M.—Open House—The Governor's Mansion

Committee on Arrangements

General Chairman ----- Mrs. Robert Irby
Co-chairman ----- Mrs. Custis L. Coleman
Secretary and Treasurer ----- Mrs. G. Douglas Hayden

Program & Printing ----- Mrs. John Kendrick
Co-chairman ----- Mrs. Allston G. Bailie
Press and Publicity ----- Mrs. William H. Harris, Jr.
Registration & Credentials ----- Mrs. Harold Goodman
Mrs. William M. Eagles
Hospitality ----- Mrs. Edwin L. Kendig, Jr.
Luncheon ----- Mrs. Carrington Williams
Co-chairman ----- Mrs. Thomas W. Murrell, Jr.
Fashion show ----- Mrs. Robert O. Hudgins
Governor's Tea ----- Mrs. Charles E. Troland
Banquet—Decorations ----- Mrs. Herbert A. Claiborne, Jr.
Co-chairman ----- Mrs. Hunter H. McGuire
Golf ----- Mrs. Armistead M. Williams
Tennis ----- Mrs. Robert P. Price
Transportation ----- Mrs. Merritt Foster
Pages ----- Mrs. William Harlan
Meeting places ----- Mrs. W. C. Morrisette
Exhibits ----- Mrs. Robert K. Duley
VIP Hostess ----- Mrs. William F. Grigg, Jr.

Physicians Continue Studies

Good doctors never stop studying, and today's physicians are studying more than ever. Attendance has gone up sharply in recent years at medical "refresher" courses offered in this country. The number of these post graduate courses has increased more than 50 per cent in the past five years. Enrollment figures are incomplete, but 71,000 physicians were registered in only half of the total number of courses offered last year, said the AMA Council on Medical Education. There was a comparable enrollment of 18,800 in 1954-55.

The August 9th Journal of the American Medical Association lists 1,641 post graduate courses available to physicians during the 1965-66 school year. The eleventh annual listing is prepared by the AMA Council on Medical Education, and represents offerings by 250 institutions in almost every state. The courses range from brief reviews, lasting only a day or two, to medical specialty training programs extending over several months.

A major step in upgrading continuing medical education has been the formal program of course accreditation approved by the AMA House of Delegates. "There is no other field of education in which comparable certification has been attempted at the practitioner level."

The AMA's national plan for continuing medical education is in development and some pilot programs will soon be ready for testing. A variety of other approaches using audio-visual and self-instructional techniques are being tried by other organizations.

The editorial concluded that "medical educators and practicing physicians alike will admit to unmet needs in physician education. But the record of the profession in recognizing, tackling, and solving its educational problems has been good in the past. There is every reason to expect that it will be good in the future."

Diverticulosis and Diverticulitis of the Colon

TWO PATIENTS whetted the writer's interest in this subject: the first patient underwent surgery with a radiologic diagnosis of *diverticulitis*, but *diverticulosis* was found; the second underwent surgery with a radiologic diagnosis of *diverticulosis*, but *diverticulitis* was found. Experiences of others who had made a preoperative diagnosis of *diverticulitis* and found not even *diverticulosis* in the surgical specimen were even more disturbing. Clearly, then, our concepts of the radiologic diagnosis of diverticulosis and diverticulitis needed revision. Such revision is found in recent work from England^{1,2,5} and the United States^{3,4}:

Diverticula of the colon are divisible into two groups: the first is characterized by extensive mucosal herniations extending throughout most of the colon, so much mucosa being expended in forming these numerous sacs that little is left to make the lining of a narrowed colonic lumen. The haustral pattern is completely lost. The diverticula may be larger in the contracted colon and may be even reducible so that they are occasionally no longer visible on a subsequent study. The muscularis propria is normal; no active inflammation or fibrosis was found in Fleischner's specimens. It is the redistribution of mucosal tissue in the form of multiple hernias and not inflammatory or cicatricial changes that lead to the narrowed, deformed colonic lumen. Fleischner calls this type *simple massed diverticulosis*.

The second type is more interesting because it initiates more radical changes in our thinking about diverticulosis. The primary change is in the two layers of the muscularis propria; the taeniae are shortened and thickened, and the circular layer is bunched up in pleats like an accordion, forming smooth muscle "tumors". Attendant upon the muscular shortening thus produced, the mucosa forms redundant masses. The process is hence one of muscular relocation, rather than hypertrophy or hyperplasia. These opposing interdigitating smooth muscle masses account for the "saw-teeth" seen on the roentgenogram, heretofore called the scarring and inflammatory edema of diverticulitis. Indeed, such "saw-teeth" need not be associated even with *diverticulosis*, let alone *diverticulitis*. Commonly, however, diverticula are present at the apices of the barium-filled "teeth" and are most likely secondary to the spastic muscle. The "saw-teeth" are commonest in the sigmoid (this may well be related to the

anatomic differences in musculature between the sigmoid and the rest of the colon), and may be transiently seen only at the beginning of the barium enema representing the reversible stage, or may be a permanent change. This group, Fleischner calls *spastic colon diverticulosis*. Possibly its deformities "represent fixed morphological changes in advanced cases of the spastic colon syndrome". If this is so, here is one intestinal "neurosis", spastic colitis, with gross morphologic change.

How, then, may diverticulitis be diagnosed radiologically? One, or at most a few, diverticula become infected and perforate at the apex (diverticular apices are either bare of muscle or are covered by only a few fibers) to form pericolic abscesses. Diverticulitis is, therefore, in its clinically significant state largely a pericolitis. The subsequent course of these abscesses determines the radiologic picture. They can remain encapsulated (radiologic extraluminal filling defect progressing even to the stage of complete obstruction), can perforate back into the gut (a mass of barium of varying size communicating with the lumen), can perforate freely into the peritoneal cavity, can dissect within the gut wall (a streak of barium is visualized parallel to the colonic lumen), or can form sinuses or fistulae communicating with the bladder, small intestine, or other parts of the large intestine. It is clear, then, that the *radiologic diagnosis of diverticulitis depends on the pericolic complications*, just as do the findings of the clinical examination.

In addition to the pericolic complications, the surgeon may be impressed with the following findings in the sigmoid: a bunching-up of the sigmoid mesocolon, muscular "hypertrophy", increase in pericolic fat, thickening of the serosa, increase in its blood vessels, "hyperplasia" of ganglion cells on microscopic study, all of which are nicely explained by the fundamental process of sigmoid shortening incident to smooth muscle spasm as described above.

BIBLIOGRAPHY

1. Morson, B. C.: The Muscle Abnormality in Diverticular Disease of the Sigmoid Colon. *Brit. J. Rad.* 36: 385-392, 1963.
2. Williams, I.: Changing Emphasis in Diverticular Disease of the Colon. *Brit. J. Rad.* 36: 393-406, 1963.
3. Fleischner, F. G., Ming, S.-C., and Henken, E. M.: Revised Concepts of Diverticular Disease of the Colon. I. Diverticulosis. Emphasis on Tissue Derangement and Its Relation to the Irritable Colon Syndrome. *Radiology* 83: 859-871, 1964.
4. Fleischner, F. G., and Ming, S.-C.: Revised Concepts on Diverticular Disease of the Colon. II. So-Called Diverticulitis: Diverticular Sigmoiditis and Perisigmoiditis; Diverticular Abscess, Fistula, and Frank Peritonitis. *Radiology* 84: 599-609, 1965.
5. Williams, I.: The Resemblance of Diverticular Disease of the Colon to a Myostatic Contracture. *Brit. J. Rad.* 38: 437-443, 1965.

CHRISTIAN V. CIMMINO, M.D.

The VaMPAC Banquet

THERE WILL BE a historical occasion on Sunday, October 10, when Congressman Durwood Hall speaks at the first VaMPAC Banquet in the John Marshall Hotel in Richmond. Dr. Hall has been in Congress since 1960; before that he was a surgeon in Springfield, Missouri. He is a member of the House of Delegates of the American Medical Association and an eloquent speaker with an important message for all physicians and their wives.

All of Virginia's ten distinguished Congressmen have been invited by their respective VaMPAC regional chairmen to attend. Several have already accepted. It is planned to arrange the tables so that each Congressman will sit with the physicians and wives from his district.

This will be the first opportunity for the physicians in Virginia to demonstrate their gratitude to our friends in Congress. An overflow crowd will let them know that we are interested in how they represent us and in how we can help them be re-elected.

JAMES M. MOSS, M.D.

Calendar of Events

- NATIONAL CONFERENCE ON PHYSICIANS AND SCHOOLS, Sheraton-Chicago Hotel, Chicago, Illinois, September 23-25.
- PEDIATRIC POSTGRADUATE DAYS, University of Virginia Medical School Amphitheater, Charlottesville, September 24-25.
- TENNESSEE VALLEY MEDICAL ASSEMBLY, Tivoli Theater, Chattanooga, Tennessee, September 27-28.
- LYNCHBURG GENERAL HOSPITAL DAY PROGRAM, Lynchburg General Hospital, Lynchburg, September 29.
- FIRST NATIONAL CONGRESS ON MEDICAL ETHICS AND PROFESSIONALISM, Drake Hotel, Chicago, Illinois, October 2-3.
- WEEKLY CONFERENCES FOR PRACTITIONERS—Fall Series—October 7-December 2, (excluding Thursday, Nov. 25) Thursday afternoons 2-4 P.M., Barringer III Conference Room—University of Virginia Medical School
- THE MEDICAL SOCIETY OF VIRGINIA ANNUAL MEETING, Hotel John Marshall, Richmond, October 10-13.
- AMERICAN HEART ASSOCIATION, Miami Beach, Florida, October 15-19.
- AMERICAN PUBLIC HEALTH ASSOCIATION, Chicago, Illinois, October 18-22.
- AMERICAN COLLEGE OF SURGEONS—Annual Clinical Congress, Atlantic City, New Jersey, October 18-22.
- AMERICAN CANCER SOCIETY, Virginia Division, Hotel Roanoke, Roanoke, October 21-22.
- STATE-LOCAL HOSPITALIZATION REGIONAL CONFERENCE (SLH), Hotel Roanoke, Roanoke, October 28.
- THIRD ANNUAL KIDNEY SYMPOSIUM, Medical Education Building, Medical College of Virginia, Richmond, October 29.
- STATE-LOCAL HOSPITALIZATION REGIONAL CONFERENCE, Convention Center, Williamsburg, November 5.
- WESTERN HEMISPHERE NUTRITION CONGRESS, Edgewater Beach Hotel, Chicago, Illinois, November 8-11.
- MEDICO-LEGAL WORKSHOP—Lynchburg General Hospital—November 18.
- VIRGINIA HOSPITAL ASSOCIATION, Marriott Twin Bridges, Arlington, November 18-19.
- DIAGNOSTIC PROCEDURES IN RESPIRATORY DISEASE—November 19-20—University of Virginia School of Medicine, Charlottesville.
- (Joint Sponsor—Virginia TB and Respiratory Association)

New Members.

The following new members were received into The Medical Society of Virginia during the months of June and July:

John W. Bolen, M.D., Galax
Grimaldo Carvalho, M.D., Richmond
William Philip Gibbs, M.D., Lynchburg

Gerald A. Gildersleeve, M.D., Richmond
Francis G. Griffin, M.D., Virginia Beach
Robert Ritchie Hogg, M.D., Chatham
Lawrence Perry Hyde, M.D., Pulaski
H. Myron Kauffman, Jr., M.D.,
Richmond
George Chen King, M.D., Richmond
Jorge A. Naranjo, M.D., Boykins

Douglas Edward Pierce, M.D., Roanoke
Charles Allen Pollock, Jr., M.D.,
Richmond

Basil Enoch Roebuck, M.D., Hampton
James David Schuler, M.D., Wytheville
J. Blair Spillman, II, M.D., Radford
Zenji Tanaka, M.D., Portsmouth
James Edmond Temple, M.D., Richmond
Honesto B. Vargas, M.D., Portsmouth
Richard J. Weymouth, M.D., Richmond

Portsmouth Academy of Medicine.

Dr. Arthur A. Kirk has been elected president of the Academy and Dr. L. L. Davis, Jr., re-elected secretary.

Medical Association of the Valley of Virginia.

Dr. Robert M. McDonald, Harrisonburg, has been elected president of this association, succeeding Dr. Donald Myers, Hot Springs. Dr. James A. Higgs, Jr., Staunton, Dr. James R. York, Berryville, and Dr. John Glick, Broadway, were elected vice-presidents; Dr. Thomas Shaver, Waynesboro, secretary; and Dr. C. F. Gaylord, Staunton, treasurer.

Rare Book Presented to University.

Dr. Francis McGovern, Danville, has presented to the medical library collection of the University of Virginia an ancient medical volume, the work of the 16th century Italian anatomist, Bartolommeo Eustacchi. Eustacchi (1520-1574) completed the anatomical drawings in the book "Tabulae Anatomicae" in 1552. However, the drawings were not printed and remained forgotten in the Vatican Library until the early 18th century when Pope Clement XI presented them to his physician, Lancisi. The copy of the book which Dr. McGovern has presented to the library collection was published in 1722. This is one of several rare and early volumes he has presented to the library.

Dr. Beachley Honored.

Dr. R. G. Beachley, Director of the Department of Health of Arlington County, has recently retired from this position. At a meeting of the Arlington County Board, the following resolutions were adopted:

WHEREAS, Dr. Beachley has served faithfully as the Director of the Arlington Health Department for the past 27 years; and

WHEREAS, Dr. Beachley, through his meticulous management, has built a public health service of which Arlington is proud; and

WHEREAS, public health standards in Arlington County have been rated among the highest in the United States;

NOW, THEREFORE, BE IT RESOLVED that the Arlington County Board this 5th day of June, 1965, recognizes the distinguished service of Dr. Beachley and congratulates him on his retirement.

Dr. Beachley also recently received the annual Welburn Award of the Arlington County Medical Society. This is the "Distinguished Service Medal" of the Society.

Dr. Frank E. Handy,

Appalachia, has been re-elected chairman of the Wise County School Board.

Dr. Leavell Honored.

A check for \$9,540.00 was presented toward the medical library fund at the University of Virginia in honor of Dr. Byrd S. Leavell, professor of internal medicine. The contribution was made by physicians who had served fellowships in hematology under him.

Dr. James H. Gamble,

Lovingson, has been named a member of the Nelson County School Board.

Dr. Ames Honored.

On June 25th, Dr. Edward T. Ames, Montross, was honored by the Masonic Lodge and was presented with a plaque in recognition of his faithful service to his fellowman. A surprise reception and buffet supper were held. Dr. Ames retired in 1963 after 42 years of practice.

Dr. John W. Massey, Jr.,

Newport News, has been named president-elect of the Virginia Heart Association. The annual meeting of this Association was held in Roanoke in June.

AMA Scientific Section Officers.

Officers of the 22 sections of the AMA Scientific Assembly have been appointed and the following are from Virginia:

Dr. W. Norman Thornton, Charlottesville, has been named chairman of the section on Obstetrics and Gynecology.

Dr. J. Warrick Thomas, Richmond, has been named alternate delegate to the section on Allergy.

Dr. T. R. Johns,

University of Virginia, has received the Robley Dunglison Award which each year's graduating class in medicine presents to an outstanding teacher on the medical faculty. Dr. Johns is professor of neurology and head of the division of neurology in the school of medicine.

Dr. Robert Irby

Has been appointed a member of the Richmond Board of Health.

Staff Physicians Wanted.

General practitioners 45 or under to assist attending staff and general practice residents in 260-bed general hospital. Annual appointment preferred. \$15,000-\$17,-

500 depending on training and experience. Contact Medical Director, San Luis Obispo General Hospital, San Luis Obispo, California. Phone: 805-543-1500 (*Adv.*)

Squibb Starts New Construction.

The Squibb Division of Olin Mathieson Chemical Corporation has started construction of a multi-million dollar biological research building in New Brunswick, New Jersey. The new building will contain the toxicology-pathology research section.

Wanted

One overworked general practitioner, or internist preferably under age 40 for outstanding career opportunity in life insurance medicine. New York City. Good hours. Paid vacations. Outstanding retirement plan. Stimulating work. For further particulars, write #65, enclosing resume, Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23211. (*Adv.*)

Needed.

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Obituaries

Dr. Vernon Wood Quillen,

Nickelsville, died July 25th, after a brief illness. He was eighty years of age and a graduate of the Medical College of Virginia in 1913. Dr. Quillen practiced in Wise County before moving to Nickelsville in 1917. He was a member of The Medical

Society of Virginia, having joined in 1915.

Three daughters and one son survive him.

Dr. Henry Augustine Latane,

Alexandria, died July 3rd, several weeks after surgery, at the age of eighty-one. He received his medical degree from the Uni-

versity of Virginia in 1912. Dr. Latane had practiced in Alexandria since 1920. He had a special interest in tuberculosis and started clinics in Arlington, Alexandria and Fairfax Counties. Another innovation of his was the laboratory of the Alexandria Hospital which he established in 1921 and was dedicated as the Latane Laboratory in 1941. Dr. Latane was chief of medicine at the Hospital for fifteen years.

Dr. Latane had been an active member of The Medical Society of Virginia since 1921. He served as a vice president and chairman of the Advisory Board to the Woman's Auxiliary. In 1955 he was named Physician of the Year by the Society.

Dr. Latane was a member of the Washington Masonic Lodge, was a Shriner and a past president of the Rotary Club of Alexandria. He has served as president of the Alexandria Medical Society.

Two sisters and two brothers survive him.

Dr. Lucy Scott Hill,

Richmond, died June 18th, following a brief illness. She was sixty-six years of age and graduated from the Medical College of Virginia in 1924. Dr. Hill practiced in New Orleans before joining the faculty of the Medical College of Virginia in 1950. She had been a member of The Medical Society of Virginia since 1944.

Mrs. Lee S. Liggan,

A past president of the Woman's Auxiliary to The Medical Society of Virginia, died July 24th.

Dr. Watkins.

The Virginia Board of Medical Examiners acknowledges with deep regret the untimely death of its Vice-President on May 10, 1965. Dr. Dawson Edward Watkins, Jr., of Waynesboro, was appointed to the Virginia Board of Medical Examiners in 1957 by the then Governor Thomas Stanley. During his nearly eight years on the Board Dr. Watkins served on every important committee of this body. Prior

to his election to the Vice-Presidency in 1964 he was for years Chairman of the very important Reciprocity Committee.

Despite a progressive chronic illness which he rarely discussed with his colleagues, he attended every meeting of the Board during his tenure of office. Not only did he attend every meeting of the Board, but he was responsible in a large measure for the smooth handling of approximately two hundred applications for licensure by endorsement each year.

Dr. Watkins' keen insight into human nature together with a sharp analytical mind did much to aid the Board in problems so often brought before it for decision. He did his utmost to render decisions with clarification which would avoid the setting of precedents which might hamper and encumber the workings of the Board in the future.

Dr. Watkins was tireless in his efforts to serve the Board and his fellow physicians in the State of Virginia. When disciplinary action was necessary in regard to his fellow physicians he made every effort towards rehabilitation, but at no time refused to do his duty when the facts presented demanded such disciplinary action.

The Board of Medical Examiners of the State of Virginia joins his family, the town of Waynesboro, and the State of Virginia in sincere sorrow at the passing of this fine Christian Gentleman—truly he was a Physician's Physician.

JAMES L. CHITWOOD, M.D., *President*

JOSEPH E. GLADSTONE, M.D., *Vice-President*

RUSSELL M. COX, M.D., *Secretary-Treasurer*

Dr. Wood.

Dr. William Hoge Wood, Jr., a member of the Albemarle County Medical Society since 1937, died on March 12, 1965, following an extended illness.

A native of Charlottesville, Dr. Wood was born October 9, 1905, the son of William Hoge Wood and Alice Kent Earl Wood. He was educated in local schools, at the Episcopal High School in Alexandria, and at the University of Virginia, where he was graduated in medicine in the class of 1933. Dr. Wood served an internship at Church Home and Infirmary in Baltimore, followed by two years at the Johns Hopkins Hospital, and another year of pediatric residency at the University of Pennsylvania. In 1937 he began the practice of Internal Medicine and Pediatrics in Charlottesville.

During the Second World War, Dr. Wood volunteered early for military duty, joining the Percy Jones Army Hospital in Battle Creek, Michigan. Most of his tenure was spent overseas, where he served with distinction as Commander of Station Hospitals in Libya and Egypt. He was retired in 1946 with the

rank of Lieutenant-Colonel, after four years Army service.

On returning to Charlottesville, Dr. Wood limited his practice to pediatrics. He became a member of the pediatric faculty of the University of Virginia School of Medicine and an attending physician at the Martha Jefferson and University of Virginia Hospitals. A past president of the Albemarle County Medical Society, he also held membership in The Medical Society of Virginia, the Virginia Pediatric Society, the American Academy of Pediatrics, and the American College of Physicians.

William Wood was an outstanding and distinguished physician, universally respected and beloved by his colleagues and by his patients. During his long illness, his fellow pediatricians in Charlottesville, conducted his medical office for him—a gesture of affection and esteem that deeply touched him and his family. There is not a member of our Society who would not have felt it an honor to have been able to participate in this spontaneous tribute.

Everyone who knew Dr. Wood even slightly became aware at once of his exceptionally generous character. His innate gentleness, warmth, sincerity and good will radiated friendliness and compassion. He was wise, modest, conservative, humane. A deep interest in life and nature, coupled with a scholarly curiosity in science and literature, made him a delightful and stimulating companion. It is not surprising that he held the love and confidence of people everywhere, that his exceptional personal characteristics and profound human example made such an indelible imprint on all those who had the good fortune to know him.

We do not now have words to convey our immense sense of personal loss for William Wood. A gracious gentleman, a courageous soldier, a dedicated physician and a loyal friend, he has taken a part of us with him. His family and a host of people from all walks of life join in our distress.

BE IT RESOLVED that the Albemarle County Medical Society on this sixth day of May 1965 express its sympathy to his family and enter into its minutes these expressions of beloved remembrance of Dr. William Wood.

ANDREW D. HART, M.D.

BYRD S. LEAVELL, M.D.

ARTHUR M. SMITH, M.D.

Dr. McCoy.

WHEREAS, In the course of human events, the good God has seen fit to grieve us by the death of our colleague and friend Doctor Hulbert Christopher McCoy, and

WHEREAS, Doctor McCoy gave us inspiration and assistance by his conscientious and very intense pur-

suit of the continued study of medicine in all its advancements, and

WHEREAS, Doctor McCoy served this community tirelessly, intensely and candidly, and

WHEREAS, Substitution or replacement of his services can hardly be foreseen, now

THEREFORE BE IT RESOLVED, That the Orange County Medical Society, as a token of our esteem, thusly records its great loss and mourns the death of Doctor Hulbert Christopher McCoy, and

BE IT FURTHER RESOLVED, That a copy of this resolution be spread upon the records of this organization and a copy forwarded to Mrs. McCoy and the members of the bereaved family, and the proper publication of these sentiments be executed.

H. F. W. MOHRMANN, M.D., *First Vice-President*
R. S. LEGARDE, M.D., *Secretary*

Dr. Coughlan.

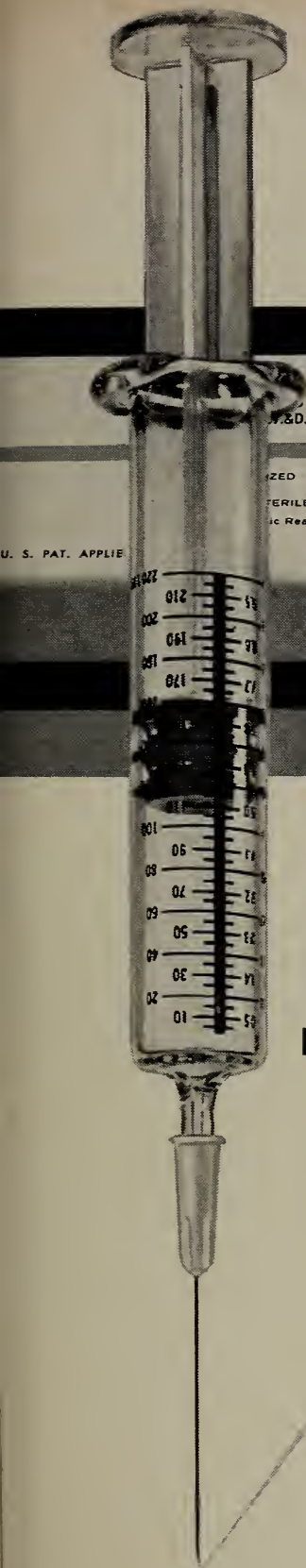
Dr. Stuart Gray Coughlan was born in Baltimore on June 3, 1911. He attended the University of Maryland, from which he received his B.S. degree in 1934 and his M.D. degree in 1937. His internship and four years of surgical residency were all served at the University Hospital in Baltimore.

He served with the 142nd Hospital in the Pacific Campaign and in the China-Burma-India theater from 1942 to 1945 and was discharged from the service as Lieutenant Colonel. Following his discharge, he returned to Baltimore where he practiced surgery and served as Instructor in Surgery at the University of Maryland from 1946 to 1949.

In 1950 he joined the surgical staff at King's Daughters' Hospital in Staunton, where he was associated with the late Dr. Samuel Garst. He became a Diplomate of the American Board of Surgery in 1947. He was a Fellow of the American College of Surgeons and a member of the Southeastern Surgical Congress, Virginia Surgical Society and the Baltimore City Medical Society.

Dr. Coughlan was a dedicated churchman. He was an ardent bibliophile and his wide interest in many fields of literature was a stimulus to all who knew him. The many innovations in surgical practice in the hospital in which he worked testify to his devotion to excellence in the practice of surgery. Dr. Coughlan will long be remembered and venerated for his sound judgment, not only in relation to clinical medicine but in relation to the problems of everyday living. His keen insight, kind understanding and calm counsel in both professional and personal matters will be greatly missed by all who were fortunate enough to be associated with him. The community itself will long miss his interest in things cultural.

Dr. Coughlan is survived by his wife Anne, his daughter Janet and his son Gray.



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(Founded by Landon B. Edwards, M. D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

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4205 Dover Road

Richmond, Virginia 23221

Annual Subscription—\$2.00

Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL

More Doctors—*H. Lamont Pugh, M.D.*..... 459

ORIGINAL ARTICLES

Renovascular Hypertension—*B. Prescott Edmunds, Jr., M.D., Julian R. Beckwith, M.D., and William H. Muller, M.D.*..... 463

Alveolar Cell Carcinoma of the Lung—*Richard N. deNiord, M.D., and Thomas M. Thornhill, Jr., M.D.*..... 469

Acute Renal Failure, Acute Cholecystitis and Pancreatitis—*Robert E. Harris, M.D., and Charles E. Gibbs, M.D.*..... 476

Francis Taliaferro Stribling, M.D.—*Chalmers L. Gemmill, M.D., and Mary J. A. Jones*..... 481

CLINICOPATHOLOGICAL CONFERENCE

Cardiac Murmur, Hepatomegaly, and Diarrhea..... 484

PUBLIC HEALTH

Facial Deformities Program..... 494

DIAGNOSTIC LABORATORY MEDICINE

The Diagnostic of Viral Hepatitis—Current Status—*R. C. Neale, Jr., M.D.*..... 496

MENTAL HEALTH

Leaves without Medical Permission from Eastern State Hospital—*R. Wayne Kernodle*..... 499

THE MEDICAL SOCIETY OF VIRGINIA

Public Relations Institute..... 504

EDITORIAL

The British Physician—A Sign of Things to Come—*Harry J. Warthen, M.D.*..... 506

NEWS 508

OBITUARIES 510

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Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 50

Guest Editorial

More Doctors

SENATOR BYRD OF VIRGINIA, one of a "corporal's guard" of Democratic Senators who voted against the Medicare Bill, recently enacted into law, quotes a former colleague as saying, "There are times when it behooves us to take the bull by the tail and look the situation squarely in the face." Common sense would appear clearly to dictate to the medical profession, and possibly the dental profession as well—the competency of the latter to speak for itself is beyond question—that we are presently confronted with such a situation.

Like it or not—and an overwhelming majority of the physicians in America dislike it intensely and saw no need for it—it is customary for most Americans, when laws are passed, to abide by them.

As is true of most winds, few are so ill as to blow no good to anyone. And so, there may be seen in the Medicare Law a significant good that should accrue therefrom. Reference is made to the nation's need for more doctors.

For a considerable part of the twenty years that have elapsed since the cessation of World War II hostilities there has been a contention between the AMA as an organization and certain medical officials, in and out of uniform, over the numerical adequacy, in the United States, of doctors, either in being or in the making. Twenty years ago, Dr. Parran, Surgeon General of the U. S. Public Health Service, pointed out upon numerous occasions that this country did not have a sufficient number of doctors and, moreover, that training facilities for a sufficient number were nonexistent. The validity of this claim was borne out by a number of committees ad hoc and ad infinitum. It nevertheless, for long, was the AMA's official position that there were enough doctors, but the fault was with their distribution. While this might have been an explanation, it certainly, by no means, was a solution.

If the advent of Medicare presages anything, high on the list must be the inescapable conclusion that more doctors are going to be essential to its implementation. From what source will these additional doctors come? Surely they will not come through the expedient of importing an increased number of racially foreign and foreign trained—partially trained—doctors into this country—a deplorable practice to meet a

necessity that has existed for more than a decade. This measure came into being under the rather high flown title of Educational Council for Foreign Medical Graduates, and is commonly designated the ECFMG program.

The presence in our hospitals of a limited number of doctors from foreign lands would probably be desirable, if there were a comparable number of American trained doctors in hospitals abroad. (This is not the case.) Such an exchange should be conducive to an improvement in international relations around the world. However, the importation of foreign trained doctors by the thousands, many of whom can speak English scarcely at all, (their number is currently in the order of 10,000, not including numerous foreign trained doctors who have established residence in the United States with a view to ultimate citizenship,) purely to meet the interne and residency needs in our hospitals is preposterous. Our exportation rather than importation of doctors should be far more readily rationalizable.

History attests that, when left to their own devices, nations tend to socialize themselves. The sense of this statement is by no means new. Basil O'Connor, when he was President of the American Red Cross, uttered words to this effect. Therefore it would follow that if those who foresee, in the enactment of Medicare into law in its present form, a gigantic step toward the outright socialization of the practice of medicine in America, are correct, the absolute necessity for a large increase in the number of our doctors must be obvious.

Since the socialization of the practice of medicine in England has been a fait accompli, the chief cry on the part of the medical profession and the public alike has been over the woeful shortage of doctors.

So much for the need, both present and predictably for the future, of an additional number of doctors to meet the requirements of our civilian population. May the fact be carefully weighed that the most major problem confronting the Medical Departments of the Armed Services since the cessation of organized fighting in World War II, has been the procurement of an adequate supply of doctors to meet the needs of those Services.

This matter, for five years following V-J day, received intensive study and effort on the part of the best personnel experts the line and staff corps of the Armed Services and organized civilian medicine—whose eminent representatives worked in close cooperation with the military—could muster, but with such indifferent success as to make necessary the passage, on 9/September/1950 of Public Law 779, better known as the Doctors Draft Law. This applied to both Physicians and Dentists and marked the first time in the nation's history that the drafting of commissioned officer personnel into the Armed Services had ever become a necessity. This struck many people as being most incongruous, inasmuch as a willingness—indeed an eagerness—to respond to the health and welfare needs of any member of the human race, and particularly to that of their fellow man in combat, had, within the memory of our most

senior citizens, been regarded as a distinctively noble hallmark of the medical profession.

It was, to say the least, regrettable, but something had happened. Even those doctors (with few exceptions) who had been held immune to being drafted into the ranks during World War II in order that their study of medicine might not be interrupted, and who had received all, or a large part, of their medical schooling at the expense of their government, and who thus were obligated to that government, refused to come forward until forced to do so by an act of Congress. Something had happened, and that something has endured. Despite the fact that, for the better part of two decades, a consideration of ways and means of obtaining a sufficient number of doctors to meet the barest requirements of the Armed Services has continued to occupy the time and study of committee after committee, and has entailed the expenditure of thousands of taxpayers' dollars, this law—this Doctors' Draft Law—or an extension thereof, has remained in effect ever since its enactment fifteen years ago. (The original Public Law 779 was supplanted on 1/July/1957 by Public Law 85—62. This new law was first extended from 1/July/1957 to 1/July/1959, then from July 1959 to July of 1963, then from July of 1963 to July of 1967—a span, actually, of 17 years since its beginning.) Without this law, there would be virtually no source of doctor supply for the Armed Services today—the introduction and adoption of numerous special inducements for doctors to enter the Medical Corps of the Army, Navy or Air Force, notwithstanding.

A number of measures designed to meet the shortage of doctor supply for the uniformed services—and particularly for the Armed Services—have been recommended. All have had their merits.

Rather than creating, as has been—and as is currently being—advocated by some, a medical West Point, Annapolis or Air Force Academy, or a composite of the three, for which the need, in response to any of a number—or a combination of circumstances—would cease to exist, and the benefits realizable from the maintenance of a nation wide training reservoir would be sacrificed; the training, in already existing medical schools of the nation—at Federable Government expense—of an additional supply of doctors expressly for the Armed Services, is strongly *readvocated*. (“Doctors for The Armed Forces” United States Naval Institute Proceedings, January/1954, page 33)

Any military, or national defense, planning that fails to take into account the wherewithal to protect, preserve and to restore the most important resource in this, or any other nation, i. e. the health of that nation and specifically the health of the personnel comprising the Armed Forces of that nation, is exceedingly faulty in a vitally important fundamental. For those upon whom the responsibility for military preparedness falls, there should be no more question about whence and by what means sufficient doctors to meet the nation's need, under all calculable conditions, will come, than there should be a question

about an adequate supply of munitions and from what source they will come. An answer to either question is of paramount importance.

If the presently existing medical schools in America and those in process of being created (there are 10,) have not and will not have adequate facilities for teaching and training enough doctors, it is urged that their capacities—again at the expense of the Federal Government—be forthrightly enlarged, if and where necessary, to the end of providing additional doctors—well taught and well trained—not only in sufficient numbers to meet the needs of the Armed Services, but to meet the needs that will ensue in the civilian populace incident to the enactment of Medicare into law, and the needs that the approach—whether insidious or obvious—of socialized medicine will bring, and, of course, the needs imposed by an increase in the nation's population.

The advent of the atomic and space age and a devotion of an ever increasing number of doctors to research, apropos our having arrived at the threshold of this fantastic era, and an appreciation, on the part of the medical profession, of the key role medicine must play in our effort to master the recognizable and challenging potentialities associable with this epochal period in the history of the world and its civilization, emphatically demand more doctors.

Finally and especially, if it be the decree of Providence, that our nation, at the flood of its tide in time, go forth in the world at large to make the cause of others our own, and to keep multiple rendezvous with the destinies of wars, as would appear to be our lot,—whether well or ill advised—more and more doctors will be essential.

For those who are opposed to Federal Government subsidy on the basis of the principle that what the Government subsidizes the Government controls, let it be remembered that Government control, while not ideal,—even if it is good Government control—is better than no control.

While the difference between those two impostors", socialism and communism is one of degree, to be sure, it nevertheless, is also one of geography and of semantics.

In any event, enactment of laws by representatives of the voting majority of the people is, in the United States, still our way. Compliance with those laws is the responsibility of the people.

It is the desire of the devotees to the healing arts in this nation to find ways and means of complying with the laws of the land and, in a full measure, to serve its people, rather than finding excuses for their inability to comply.

An increase in the number of doctors in America is certainly going to be a *sine qua non* to this end. "When the going gets tough, let the tough get going."

H. LAMONT PUGH, M.D.

*The George Washington University
Washington, D. C.*

Editor's Note: Dr. Pugh is a former Surgeon General of the United States Navy.

Renovascular Hypertension

A Review of Twenty-one Cases with Follow-up

B. PRESCOTT EDMUNDS, JR., M.D.
JULIAN R. BECKWITH, M.D.
WILLIAM H. MULLER, M.D.
Charlottesville, Virginia

In hypertension due to renovascular disease, restoration of blood supply to the kidney may be preferable to nephrectomy even when the other kidney is normal. In this series 11 of 21 patients were considered cured.

THE ETIOLOGICAL RELATIONSHIP between renal disease and hypertension without renal insufficiency was first demonstrated by Goldblatt, who showed that blood pressure elevation would consistently follow the application of a clamp on the renal artery of the dog. There is little doubt that in humans also, hypertension may similarly result from partial renal artery occlusion of one or both kidneys.

Butler originally advocated nephrectomy for the relief of hypertension caused by unilateral pyelonephritis,² but this kind of attack in this condition yielded only a twenty per cent cure rate in a series reviewed by Smith,³ and a somewhat better than fifty per cent cure in Thompson's review.⁴

Recently there has been a wave of enthusiasm over renovascular surgery as an

approach to hypertension caused by ischemic renal disease and there have been encouraging reports following renovascular repair as well as nephrectomy. Good results have been reported in different series ranging from approximately sixty to eighty per cent.⁵⁻⁹ The periods of follow-up after surgery, however, varied making comparison difficult. Recently it has been estimated that from ten to twenty per cent of patients with elevated blood pressure have renovascular disease as the etiological factor.⁵⁻⁶ The twenty per cent⁵ was from a large medical center where vascular problems are referred and is probably in excess of the true incidence in the hypertensive population over the entire country.

This paper is an analysis of twenty-one patients with renovascular hypertension, who underwent surgery and who were followed from six weeks to two and one half years after the operation.

Materials and Methods

Patients reported in this study were for the most part referred to the cardiovascular service for further work-up of previously known hypertension. These patients all had a resting diastolic blood pressure while in the hospital of at least 100 mm. of mercury. In addition to the routine history and physical examination, complete blood count, serum electrolyte determination, urinalysis and renal function studies were performed. These included a concentration test, intravenous phenolsulfonphthalein excretion test and usually a creatinine clearance determination. All patients also had

From Department of Internal Medicine and Department of Surgery, University of Virginia Hospital.

This work was done during the time Dr. Edmunds served as Junior Research Fellow, Virginia Heart Association, 1963-64.

tests for pheochromocytoma. Following these procedures an intravenous pyelogram and radiorenogram were done in the initial search for renovascular disease.

If either of these two screening tests were abnormal, usually a percutaneous retrograde femoral aortogram was performed.¹⁰ Renal arteriograms were also performed on those patients who had normal screening tests but also had one of the following: (1) abdominal bruit or recent abdominal pain, (2) malignant hypertension, (3) hypertension under thirty years of age, (4) sudden worsening of hypertension at any age.

Split renal function studies as suggested by Howard and modified by Burchell were carried out on most patients whose aortograms demonstrated renal artery disease.^{11,12}

Clinical Features

The twenty-one patients ranged in age from twenty-three to sixty-three years with an average of 46.6 years. (Table I) Nine

TABLE I
RENOVASCULAR HYPERTENSION

Sex	Num- ber	Per Cent	Age
Male.....	11	52	23 to 63
Female.....	10	48	Average age 46.6 years

	Age by Decade				
	20-30	30-40	40-50	50-60	60-70
Total Number.....	2	1	9	7	2
Male.....	1	1	1	5	2
Female.....	1	0	8	2	..

10 or 48% were between 30 and 50 years.

were in the forty to fifty age group and seven in the fifty to sixty age group. There were two each in the decades of twenty to thirty and sixty to seventy years respectively, and one in the thirty to forty year group. The total division by sexes was eleven males and ten females.

An abdominal bruit was heard in six patients and one had a history of sudden abdominal pain. There was a family history of hypertension in four of the patients.

Seven patients had elevated blood pressure for less than one year, three less than two years but more than one, four two to five years and seven more than five years.

The range was six weeks to twenty years of known hypertension prior to surgery in this series. (Table II)

TABLE II
RENOVASCULAR HYPERTENSION

	Number	Per Cent
Abdominal Bruit.....	6	28
Family History of Hypertension...	4	19
History of Abdominal Pain.....	1	6

Time Hypertension Existed—Six
Weeks to Twenty Years

	Number	Per Cent
Less than one year.....	7	33
Less than two years but more than one.....	3	14
Two to five years.....	4	19
More than five years.....	7	33

Average—Five years, four months.

Evaluation of the ocular findings using the classification of Keith-Wagener and Barker revealed normal fundi in one, Grade I in two, Grade II in twelve and Grade III in two and Grade IV in four. (Table III)

TABLE III
RENOVASCULAR HYPERTENSION

Fundi*	Number	Per Cent
Normal.....	1	5
Grade I.....	2	10
Grade II.....	12	57
Grade III.....	2	10
Grade IV.....	4	18

*Keith-Wagener Classification.

Diagnostic Procedures

Intravenous pyelography which was performed in twenty cases was found to be abnormal in fourteen and normal in six. Of those that were abnormal, five showed decreased size of one side only, six decreased size and delayed appearance of the dye on one side or no visualization of the dye on one side and in one each there was delayed appearance, no visualization or poor filling

of one side with normal renal size. (Table IV)

TABLE IV
RENOVASCULAR HYPERTENSION

	Number	Per Cent
<i>Intravenous Pyelogram</i>		
Positive.....	14	70
Negative.....	6	30
<i>Positive IVP's</i>		
Decreased size only.....	5	36
Decreased size and delayed appearance or no visualization.....	6	43
Delayed appearance, no visualization or poor filling of one side with normal renal size....	3	21

The radiorenogram was done in eleven patients and was abnormal in nine and normal in two. These were called abnormal, if there was a depression in one side as compared with the other in either the vascular, functional or excretory phases or if there was an obviously bilateral defect. Such a bilateral defect was found in only one of the eleven patients on whom the test was performed.

An aortogram demonstrated renovascular abnormality in all of the twenty patients who had this procedure done. It was not done in one patient. (Table V)

TABLE V
RENOVASCULAR HYPERTENSION

	Number	Per Cent
<i>Radioisotope Renogram</i>		
Positive.....	9	82
Negative.....	2	18
<i>Aortogram</i>		
Done on twenty patients—all positive		
Not done on one patient		

Split renal function tests were carried out in fourteen patients with abnormal findings in twelve and normal in two. Both of those patients who had normal split renal function studies were found to have bilateral renal artery obstruction demonstrated by the aortogram, therefore, surgery was done in spite of the normal test. (Table VI)

Surgical Procedures and Findings

Of the twenty-one patients subjected to surgery, fifteen underwent vascular repair, endarterectomy, by-pass, patch graft or any combination of these procedures and five had nephrectomy, while one had a nephrectomy on one side and by-pass graft on the

TABLE VI
RENOVASCULAR HYPERTENSION

	Number	Per Cent
<i>Split Renal Function</i>		
Positive.....	12	86
Negative.....	2	14
Total.....	14	

other. Five patients had bilateral operative repair. Two were repaired with a patch graft and endarterectomy, two bilateral aortorenal by-pass graft and one vein graft. Unilateral occlusion developed at the site of repair shortly after operation in one patient after endarterectomy and one after a bilateral by-pass graft requiring subsequent nephrectomy. The blood pressure in each instance remained elevated after the first operation but returned to normal after the second. Two patients expired following surgery. One death occurred immediately post-operative in a sixty-two year old male patient with advanced vascular disease. He had an old myocardial infarction and obstruction of the terminal aorta as well as marked blood pressure elevation. An aortoiliac endarectomy and insertion of a bifurcation graft from the aorta to both renal arteries, bilateral sympathectomy and appendectomy were done. The other followed surgery in a fifty-two year old male with marked bilateral renal stenosis, poor kidney function and an elevated blood urea. A left nephrectomy was necessary and a by-pass graft was placed from the aorta to the remaining right renal artery. Thrombosis of this followed with resulting infarction of the kidney, death occurring in uremia.

At operation and on pathological section arteriosclerotic changes were found in fif-

teen patients. Fibromuscular hyperplasia in five and unilateral ischemic atrophy in one. The right kidney was involved in six and the left in eight. There was bilateral involvement in seven. (Table VII)

TABLE VII
RENOVASCULAR HYPERTENSION

	Number	Per Cent
<i>Causes of Hypertension</i>		
Arteriosclerosis (including ischemic atrophy probably secondary to arteriosclerosis)...	16	76
Fibromuscular.....	5	24
<i>Involved Site</i>		
Right.....	6	28
Left.....	8	38
Bilateral.....	7	33

Follow-Up

The follow-up studies have been derived from return office and hospital visits or correspondence with the patient's personal physician in their hometown. The briefest follow-up period in this series is six weeks in a patient who had recent surgery and the longest, twenty-six months.

Nineteen patients have been followed and of these eleven have been designated as cured since their post-operative diastolic pressure has not risen above 90 mm. of mercury.

Four have been classified as improved since their diastolic pressures have ranged

TABLE VIII
RENOVASCULAR HYPERTENSION

Follow-up—Six weeks to two years, six months.
Twenty-one (Total Patients)
2 post-op deaths
19 follow-ups
Cures—Diastolic up to 90 mm. Mercury
11 patients—58%
Improved—Diastolic 90-100 mm. Mercury
4 Patients—21%
Unimproved—Diastolic over 100 mm. Mercury
Cure and Improved—Diastolic 100 and Below
15 Patients—79% of those alive
15 Patients—71% of the total twenty-one.

from 90 to 100 mm. of mercury and four are classified as unimproved. Their diastolic pressures have consistently remained above 100 mm. of mercury. Although this group is classified as unimproved all four of these

patients have continued to have diastolic elevation lower than that observed prior to surgery. (Table VIII)

Discussion

The age of these patients who were cured varied from twenty-three to fifty-four years with an average of 40.3 years. This is a younger age group than the 46.6 year average of twenty-one patients studied and that of the 52.5 average of the combined improved and unimproved group. (Table IX)

TABLE IX
RENOVASCULAR HYPERTENSION

	Average age in years	Age range in years	Average years elevated blood pressure present prior to surgery	Sex M %	F %
<i>Cured Patients</i>					
Eleven.....	40.3	23-54	2 yrs. 9 mo.	45	55
<i>Improved and Unimproved</i>					
Eight.....	52.5	44-63	7 yrs. 5 mo.	50	50

A distinct difference was present between the length of time that hypertension existed prior to surgery in the cured group and that of the group as a whole as well as the combined improved and unimproved group. Of the twenty-one patients studied, the average time that elevated blood pressure was present prior to surgery was five years and four months while the average time of those cured was only two years and nine months. One of the cured patients had prior hypertension for twenty years and the average without him would have been thirteen months. In contrast, improved and unimproved groups of eight averaged seven years and five months from the onset of hypertension to the time of surgery.

In five of the cured patients arteriosclerosis was the cause of hypertension and in five fibromuscular hyperplasia was found. One had ischemic atrophy of the kidney, the cause of which was unknown. All five of the patients with fibromuscular hyperplasia were female and all were cured.

An intravenous pyelogram and a radio-
renogram have been advocated as a screen-
ing test before the arteriogram is performed.
All of the patients who were cured or im-
proved had intravenous pyelograms, and
ten were positive. Of the four unimproved
patients, one showed a decrease in size of
one kidney but the intravenous pyelogram
was otherwise normal, one showed no func-
tion on one side and a third was normal.
An intravenous pyelogram was not done in
one patient of this group.

Ten of the fifteen patients who were
cured or improved had radiorenograms and
of these eight were positive. The two nega-
tive tests were found in patients with bi-
lateral disease. One of the two patients who
died post-operatively had a positive radio-
renogram also. None of the unimproved
patients had radiorenograms performed. Of
the twelve patients classified as cured or
improved who had split renal function
studies, ten were positive. The two negative
results were obtained in patients with bi-
lateral renal artery obstruction. The test
was not performed in three patients.

There was also one positive test in the
unimproved group, it was not done in the
other three. One of the two patients who
died also had a positive test.

It seems that an abnormal split renal
function study demonstrates a functional
defect of the affected kidney. This appears
to be valuable in determining whether or
not renal artery obstruction as shown by
the aortogram is a probable cause of the
hypertension.^{11,12,14,16} This is important since
even if the aortogram demonstrates obstruc-
tion to the renal artery it does not neces-
sarily indicate that this is causing the hyper-
tension.²⁰

Renal conserving operations have been
recommended rather than nephrectomy
whenever possible since when adequate
blood flow is restored normal function may
be resumed.²¹ The kidney with an obstructed
renal artery has been protected and in fact
may be anatomically more normal than the

opposite kidney which has been subjected
to the elevated blood pressure. Restoration
of blood pressure to normal was not
achieved until obstruction of one kidney
was relieved and the opposite removed in
a case reported by Thal et al.²²

Summary

1. Twenty-one patients with renovascu-
lar disease were subjected to surgery for the
relief of hypertension and nineteen of these
were followed six weeks to one and a half
years. Two died in the immediate post-
operative period.

2. Eleven patients were classified as cured,
since their diastolic pressure has been con-
sistently 90 mm. of mercury or below. Four
are classified as improved since their diastolic
pressures range from 91 to 100 mm. of mer-
cury and four unimproved as their diastolic
pressures have consistently been over 100
mm. of mercury.

3. The average age of the cured group
was 40.3 years while the others in the un-
improved group was 52.5 years.

4. Hypertension had been present in the
cured group for an average of two years
and nine months, while in the unimproved
and improved it had existed for seven years
and five months.

5. The intravenous pyelogram and radio-
renogram gave a clue to the existence of
renovascular abnormalities in approximately
eighty per-cent of the patients.

6. The aortogram will usually delineate
the area of obstruction but its existence may
not necessarily indicate that it is the cause of
the hypertension.

7. It appears that the split renal func-
tion study is a valuable aid in selecting pa-
tients with known renovascular disease for
surgery and should be done after the aorto-
gram demonstrates that there is renal artery
disease.

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Alveolar Cell Carcinoma of the Lung

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Alveolar cell carcinoma is being diagnosed with increasing frequency. The chances of cure are better in this tumor than in some others and often lobectomy is sufficient.

THE RECENT REALIZATION that there is an increasing incidence of alveolar cell carcinoma of the lung has prompted this review of cases and a comparison with the more frequently found epidermoid malignancies.

The term alveolar cell carcinoma should be properly reserved for epithelial tumefaction which with its ability to metastasize and attain autonomy is thereby defined as malignant. The alveolar cell carcinoma has been called by other names and this leaves some confusion in the minds of many physicians. Bronchiolar carcinoma of the lung is synonymous with the alveolar cell lesion.

This tumor grows by invasion as well as by expansion. Late in the course of the new growth metastasis occurs but this is usually quite late in contrast to the more lethal and early metastasizing anaplastic or oatcell carcinomas. The well differentiated epidermoid carcinoma falls somewhere in between as far as distant organ metastasis is concerned. The spread of alveolar lesions is predominantly within the lung and in only 25% of cases is there extension beyond the thorax.

Since the alveolar cell carcinoma does not usually invade the larger bronchi it produces

very little in the way of symptoms until it is quite large. At this point an entire lobe of a lung may be involved with associated chest pain, dyspnea, cough, et cetera.

Only rarely does hemoptysis occur but characteristically a rather stringy, voluminous mucoid sputum is present (in about 60% of these patients).

The tumor may present an x-ray appearance characteristic of a well localized lesion or may present a confusing picture because of the "moth-eaten" appearance suggestive of multiple cavitations.

Etiology

The etiology of alveolar cell carcinoma of the lung is theoretical only but in a neg-



Fig. 1. Discrete infiltration of L U L without clearing in three months and with onset typified by temperature elevation, cough and symptoms characteristic of infection. Later thoracotomy and L U Lobectomy performed with diagnosis of alveolar cell carcinoma.

ative way it can be stated that it has no relationship to air contamination or cigarette smoking. Interestingly enough, several experimental facts regarding alveolar epi-

thelialization are known. Simonds and Curtis¹ noted marked alveolar epithelialization about necrotic areas in lung tissue following

nant. This theory is based on the belief that normal alveolar epithelium does exist in the human lung. Others have disagreed with

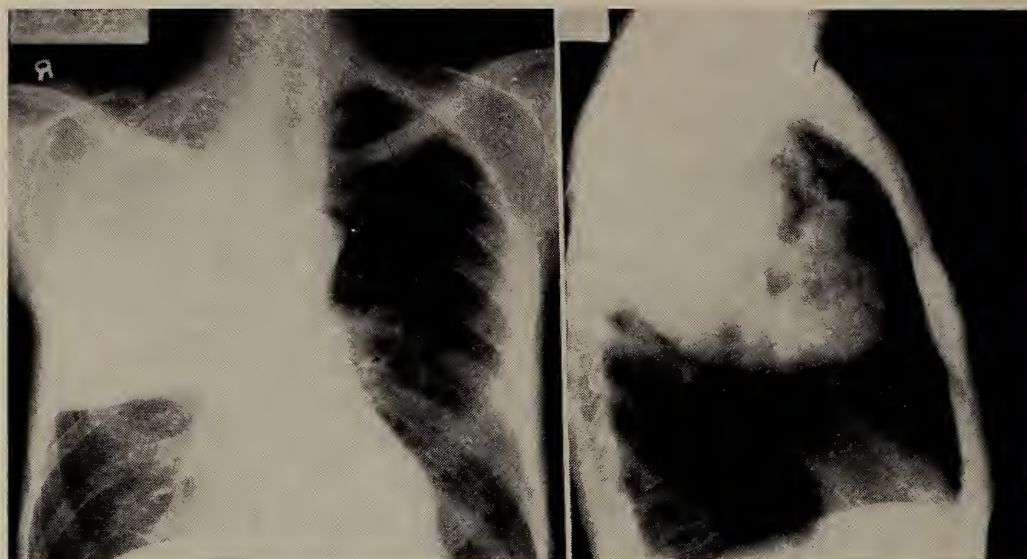


Fig. 2A. Massive involvement of R U L with alveolar carcinoma. Patient suffered with painful osteoarthropathy and daily temperature elevations for two months before chest x-rays were obtained.

intravenous injection of tar in rabbits. It has also been observed that the injection of Dibenjanthrene or Methyl-cholanthrene in-

this, indicating that alveolar cell carcinomas must arise from the basal layer of cells of the bronchial tree with extension to involve

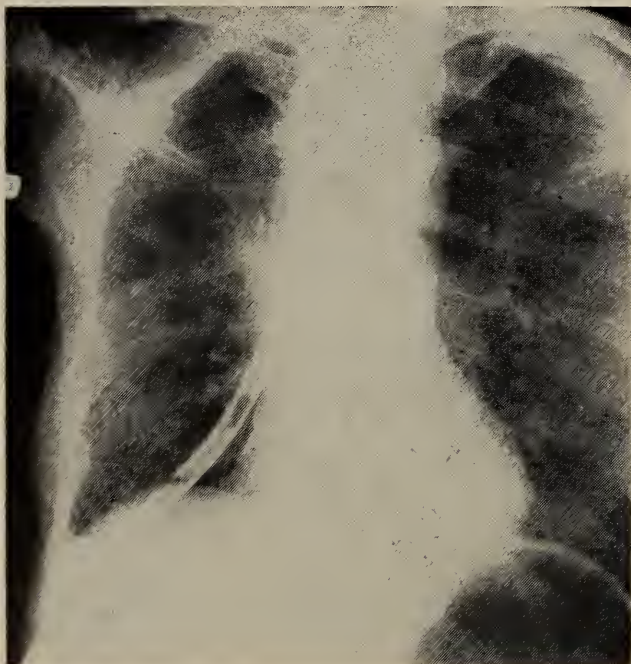


Fig. 2B. Same patient following R U Lobectomy for alveolar cell carcinoma.

to mice will produce epithelialization of the alveolar lining.²

Some investigators (Graham,³ Bell,⁴ Ikeda⁵) theorize that in this tumor the normal epithelial cells of the alveoli become malig-

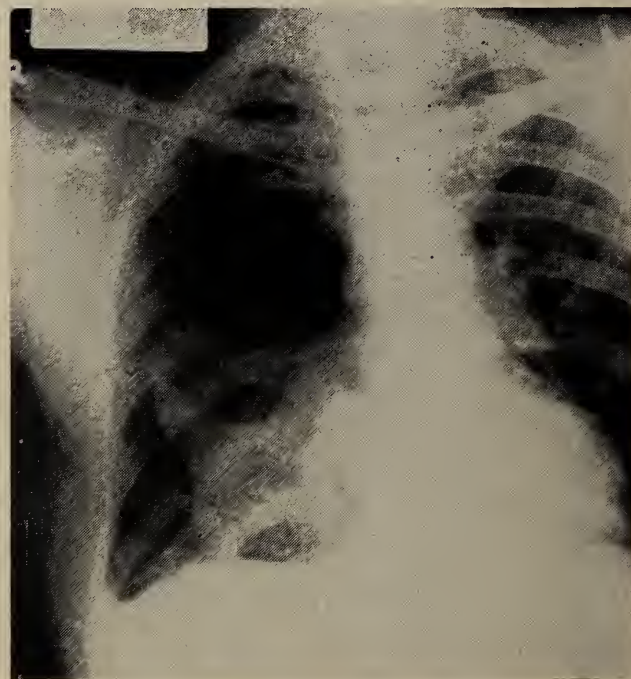


Fig. 3. Diffuse, bilateral infiltration with (R) pneumothorax—proven to be alveolar cell carcinoma. The diffuse nature of this disease as shown here has given rise to the multicentric origin concept.

the alveoli. Thus, Liebow,⁶ Storey,⁷ and others feel that the large cells which come to line the alveolar spaces in alveolar carcinoma

do not primarily take origin from the alveolar epithelium itself but from the distal terminal bronchioles.

nar cells lining the alveolar walls without disruption of the alveolar structures. These columnar cells have vesicular nuclei and

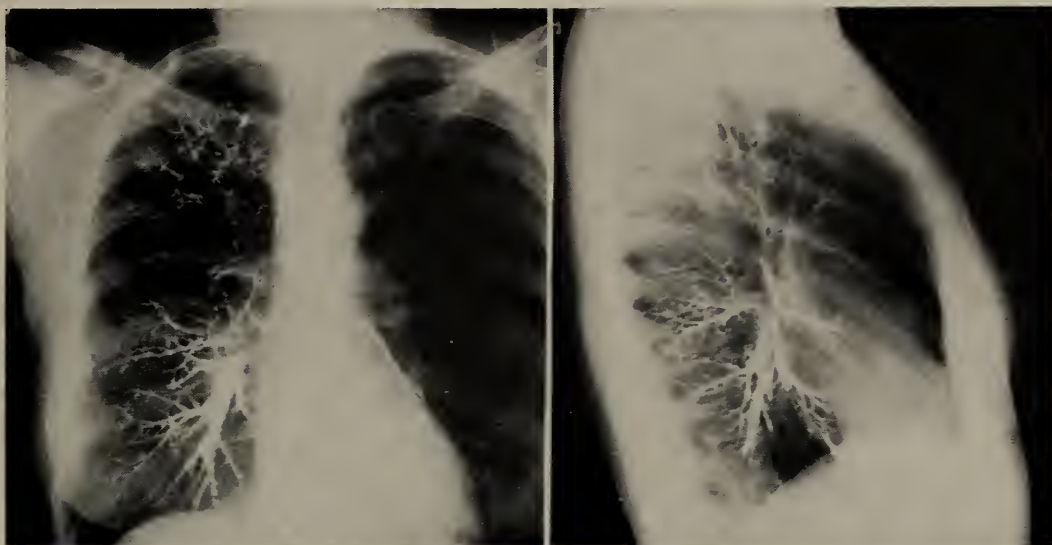


Fig. 4. Well localized lesion of R U L demonstrated as a persistent area of infiltration which did not clear after four months of antibiotic therapy. Alveolar cell carcinoma diagnosed at the time of R U lobectomy. Patient alive and well five years later.

Pathology

Microscopically the alveolar cell carcinoma resembles an adenocarcinoma. In fact, some alveolar cell tumors have inadvertently

may have either single or multiple layers giving a sheet-like appearance. The alveolar septa with their columnar cells encroach on the alveolar space and fuse producing an

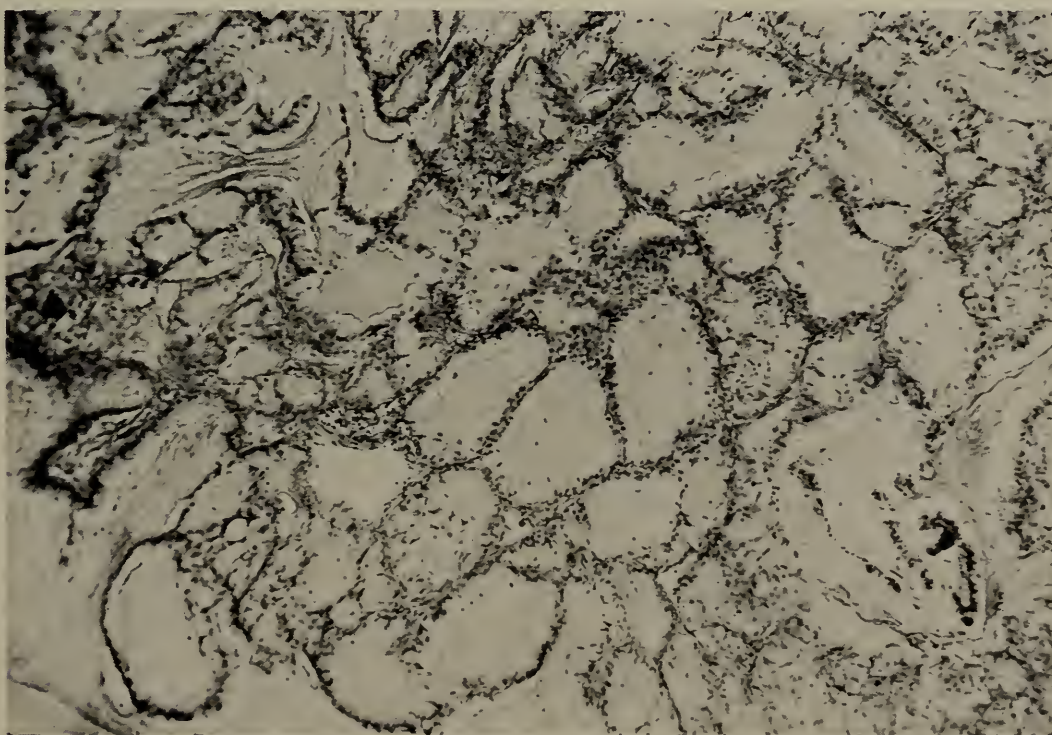


Fig. 5A. Low Power—Typical alveolar cell carcinoma (patient C. J.) showing tall columnar cells with abundant cytoplasm. See Fig. 5B—high power.

been labeled adenocarcinoma. As seen in the photomicrographs, the classical pattern of the alveolar cell tumor is one of tall, colum-

adenomatous appearance. The lesion is similar to a contagious disease of sheep known as jaagsiekte. Although actual necrosis is

rare in these lesions, cavitation may occur where a confluence of nodules has taken place.¹¹

in contradistinction to the firm or hard "feel" of other tumors of the lung such as epidermoid or undifferentiated carcinomas.

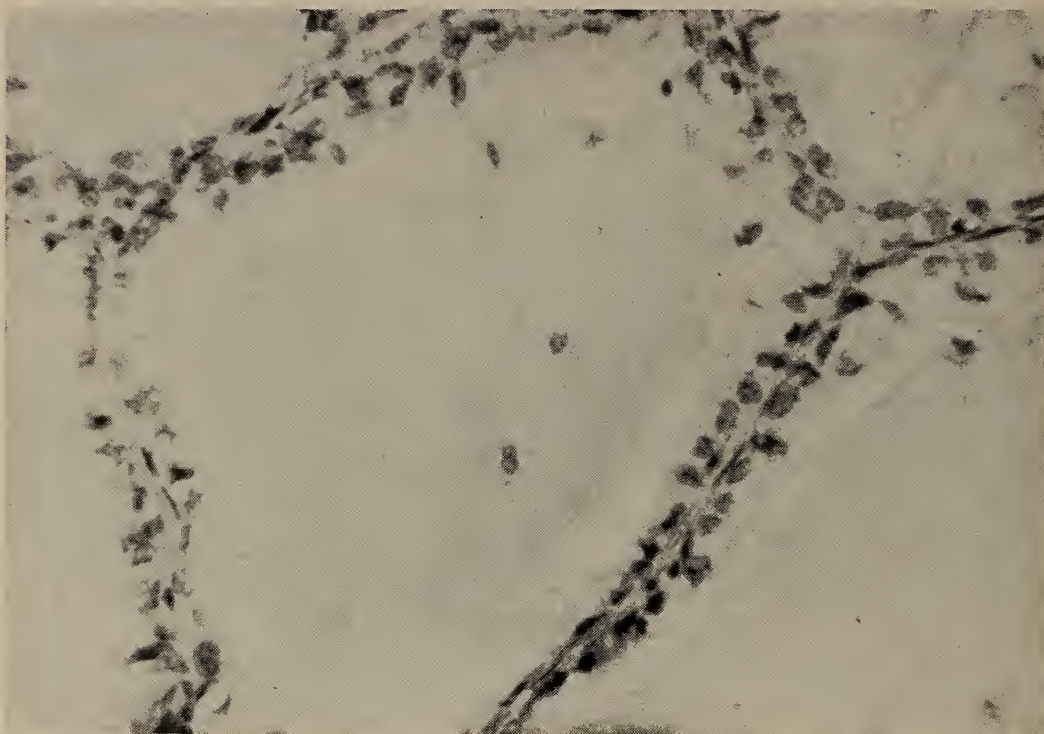


Fig. 5B. High power—Note columnar cells with finely granular cytoplasm.

Grossly the tumor may be diffusely infiltrative throughout an entire lobe or indeed,

On cutting the specimen there is usually a yellow or brown color with some cavitation

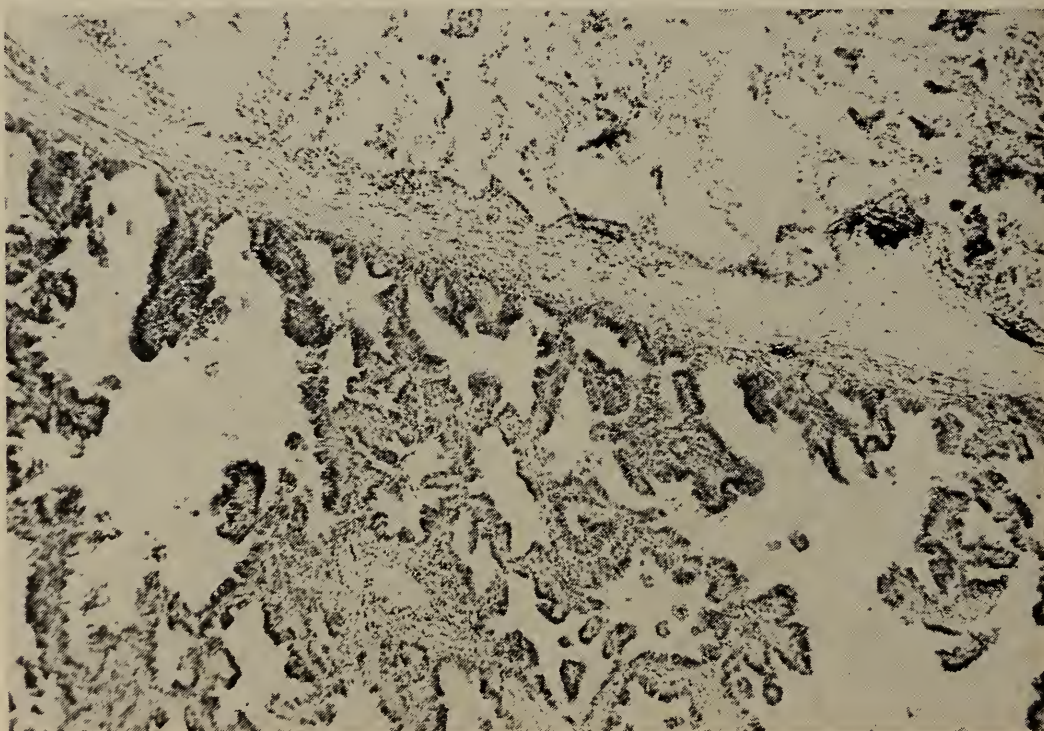


Fig. 6A. Shows transition between normal lung above and alveolar tumor below.
High power—See Fig. 6B.

fairly well localized in a peripheral location. The portions of the lung involved are soft

present and usually a large amount of stringy mucoid secretion present.

Because the alveoli themselves are involved either by direct proliferation of an epithelial cell or by invasion of a malignant terminal bronchiolar cell to line the alveoli, the presenting location of this tumor is peripheral with progressive enlargement and eventual metastasis. The fact that multiple necropsy studies (Auerbach⁸) have been performed on patients with chronic viral

of 28 diagnosed alveolar cell carcinomas operated upon over a five year period, from July 1958 to July 1963.

Of this number of patients, all survived the surgical procedure, seven have lived longer than three years (25%), nine have survived two years or longer (32%), and the remainder have expired because of their disease. Because of the rather bizarre way

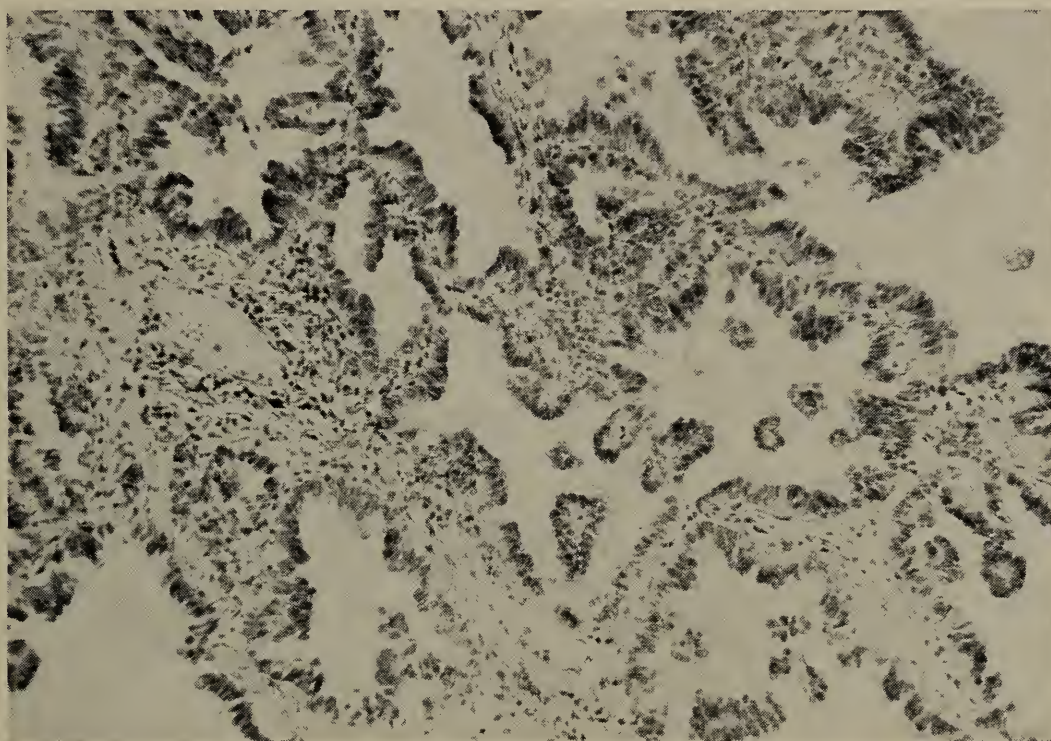


Fig. 6B. High power alveolar cell carcinoma—Note nuclei are large in comparison to the cytoplasm of a normal cell. The nucleoli are large and prominent. Atypism in size, shape and staining capacity is characteristic and stamps the growth as a malignant tumor.

pulmonary infections, which have revealed a rising incidence of organization of the pulmonary exudates and parenchymal fibrosis, makes theoretical the possibility of chronic pulmonary infection as an etiological factor in the development of alveolar cell carcinoma.

Surgical Experience

The usual textbook description of various types of malignancies of the lung are as follows: epidermoid carcinoma—50%, adenocarcinoma—15%, anaplastic carcinoma (oatcell carcinoma)—30%, bronchiolar or alveolar cell carcinoma, 3%.

Our experience relates to the treatment

in which alveolar cell carcinoma presents to the clinician and the absence of classical signs and symptoms in many patients, a late diagnosis and thereby late thoracotomy was performed in many instances. It would appear that alveolar cell carcinoma does not carry quite the same lethal potential as the well differentiated epidermoid lesions and certainly not the hopeless prognosis of the oatcell (anaplastic) carcinoma.⁹ For this reason it is urged that a diligent approach be applied to all undiagnosed pulmonary lesions in order to establish an early diagnosis and exploratory thoracotomy if suspicion of malignancy is present. Only in this way will survival rates be extended.

Natural History

The alveolar cell or bronchiolar cell lesion begins as a small infiltration similar in appearance to a pneumonic area. The infiltration furthermore may be associated with a temperature elevation due to alveolar obstruction with retained infected secretions. A diagnosis of simple inflammatory disease is often made. As the lesion progresses, the infiltration becomes somewhat larger and may then be misdiagnosed as a granuloma. Hemoptysis is rare in these patients and the incidence of cigarette smoking seems to bear no relationship. Osteoarthropathy is rare, but there may be painful periosteal proliferation over long bones adjacent to the joints. In this series the lesion occurred in about equal proportion between male and female. The usual diagnostic studies such as bronchoscopy and cytology studies are advised in all patients who have an undiagnosed pulmonary infiltration lasting longer than three weeks. Unfortunately, bronchoscopy is often unrewarding since the lesion is markedly peripheral and cannot be visualized through the bronchoscope.¹⁰ However, the mucoid stringy secretions will frequently contain alveolar slough and cytological diagnosis can thereby be made. Prescalene node biopsies are also unrewarding since lymph node extension is late or non-existent. It is interesting to note that the delay in diagnostic thoracotomy between the first x-ray evidence of the lesion and definitive surgery amounted to 4.2 months in this series of 28 patients. The fact that both the patient and the referring physician alike prefer to avoid a surgical procedure if possible does not change the unpleasant mandate that a suspicious lesion of the lung which does not clear satisfactorily with antibiotics in a reasonable period of time should be exhaustively studied and if necessary thoracotomy performed to rule out the possibility of a malignancy.

Diagnostic procedures as indicated above depend primarily upon the "persistent hound dog" tactics of the referring physi-

cian. A patient who has evidence of chronic cough, with or without productive sputum and x-ray evidence of a small density in either lung should be subjected to continued scrutiny. These lesions begin in a very mild manner but usually are associated with a cough and slight temperature elevation. Once the infection has been controlled, the temperature may return to normal but repeat x-rays at four to six week intervals are mandatory. Fortunately, the alveolar cell carcinomas usually involve only one lobe and the cure rate for these lesions is just as great with a simple lobectomy as with a pneumonectomy. Therefore, the simplest procedure possible should be performed at the time of surgery restricting the resection to the lobe involved rather than attempting to do a wide lymph node resection as indicated in other types of malignancy. The somewhat outmoded concept of a multicentric origin in alveolar tumefaction probably was based on late diagnosis with lymphatic extension appearing in other portions of the same or contralateral lung.

It is felt that the sixteen patients who are alive and well and hopefully free from disease following their resection are a significant number and that the alveolar cell malignancies carry a lower lethal potential than heretofore has been described. Since only small numbers of these tumors are reported it is hoped that larger overall series will bear out this fact. Furthermore, it is hoped that earlier diagnosis will mitigate the unfortunate sequence which occurs with delayed diagnosis and late metastasis, and that the anathema of surgery will be cleared from the patient's mind as better results are obtained.

Summary and Conclusion

1. Alveolar cell carcinoma of the lung seems to be occurring with increasing frequency, as indicated by the 28 cases presented here.
2. The classical "multicentric origin" theory of alveolar cell carcinoma ori-

gin is challenged as a concept since the overall three year cure rate is 25% or over.

3. Alveolar cell carcinomas rarely present with distant metastasis but usually have late lymphatic invasion and it is probable that such extension presents in other portions of the same or contralateral lung thus giving rise to the origin concept of multicentricity.
4. The cures effected in this series have been with lobectomies as against pneumonectomies and would indicate that extension to the same or contralateral lung is late and usually by means of lymphatics rather than blood vessel invasion.
5. The delay between onset of symptoms and eventual thoracotomy (4.2 months) indicates a lack of persistence in following up unusual chest x-rays with repeat studies and pursuing the diagnosis of unresolved infiltrations in the lung until a specific diagnosis has been established.

CHART I

RESECTION OF LUNG PERFORMED ON 28 CASES OF ALVEOLAR CELL CARCINOMA

Average age—	42 Years
Sex—	18 Female 10 Male
Symptoms—	
Cough—	82%
Temperature elevation—	64%
Muroid sputum—	60%
Survival—	
Nine patients greater than two years and apparently free of disease	(32%)
Seven patients greater than three years and apparently free of disease	(25%)

CHART II

No thoracotomy performed in 11 cases of alveolar cell carcinoma because of infirmity or obvious bilateral extension of tumor

Age and generally poor medical status a deterrent to thoracotomy—	4
Diffuse tumefaction and incurability contraindicating surgery—	7
Survival from time of initial diagnosis to death—	Average 7 months
Survival beyond two years—	0

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Acute Renal Failure, Acute Cholecystitis and Pancreatitis

Associated with Twin Gestation and Cesarean Section Possible Implication of Tetracycline Therapy

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These near fatal hepatic and renal malfunctions complicating pregnancy were reversed following delivery by section and discontinuance of tetracycline administration. The part played by the drug in this case is discussed.

THE MORTALITY of acute renal failure associated with pregnancy has been reported to be 20 per cent to 29 per cent.¹⁻³ If pancreatitis occurs following cholecystectomy and common bile duct exploration, the mortality has been reported to be as high as 77 per cent.⁴ Eleven cases of maternal deaths due to toxic liver disease were reported recently. Each of these patients had been treated with tetracycline for pyelonephritis.⁵⁻¹⁰ Subsequently, the twelfth maternal death due to renal failure, pancreatitis, and liver failure associated with tetracycline therapy has been described.¹¹ The following case illustrates the problems that arise when acute renal failure, acute cholecystitis and pancreatitis complicate pregnancy.

From the Department of Obstetrics and Gynecology, Wilford Hall USAF Hospital, Aerospace Medical Division (AFSC), Lackland Air Force Base, Texas.

Report of a Case

A 27-year-old white female who had had two Cesarean sections was first seen at the Wilford Hall USAF Hospital at 18 weeks of gestation. A history compatible with previous cholecystitis and cholelithiasis was obtained. Her initial weight was 285 pounds (129.5 kg). During pregnancy, the blood pressure ranged from 110/70 to 144/80 mm. Hg. At 32 weeks of gestation she developed nausea and vomiting which did not respond to conservative therapy. On November 21, 1963, at 36 weeks of gestation, she was admitted to the hospital with lower abdominal and right flank pain associated with frequency, dysuria, nausea, and fever. On physical examination, her weight was 283 pounds (128.6 kg.), height 67 inches (160.2 cm.), temperature 99.4° F. (37.5° C.), pulse 120 beats per minute, respiration 28 per minute, and blood pressure 110/70 mm. Hg. The uterine fundus was 41 cm. above symphysis pubis, and the fetal heart tones were 144 per minute in the right lower quadrant. No contractions were palpable, the uterus was irritable, and the cervix was 50 per cent effaced and undilated. Marked tenderness was present in the flank.

Labortary data included a flat plate of the abdomen revealing twin gestation. Admission urinalysis revealed white blood cells and red blood cells too numerous to count with clumped white blood cells. Urine culture grew *Escherichia coli* with a colony count

of greater than 100,000 per cu. mm. The white blood count, zinc flocculation, thymol turbidity, and alkaline phosphatase remained normal during the hospital course. Table 1 presents the pertinent serial laboratory data.

distended, acutely inflamed gallbladder was removed and the common duct was explored but no stones were found. Liver biopsy revealed fatty metamorphosis and bile stasis. Biopsy of the right rectus muscle was reported as compatible with primary muscular

TABLE I
SERIAL LABORATORY DATA

DATE IN 1963	BUN* mg. %	Creati- nine mg. %	Potas- sium m. Eq./l.	HCT %	Hgb. gm.	Bili- rubin Total	mg. % Direct	Serum Amy- lase U./100 ml.	Urine Bile	Cal- cium m. Eq./l.	Pro- tein gm. %	SGOT† Units	Albu- min gm. %
Nov. 22.....				28	9.9								
Nov. 25.....	9					.7	.3	72	Pos	4.2	3.1		
Nov. 28.....			4.2	31	10.7	2.0	1.9		Pos				
Dec. 2.....				29	9.3	3.7	1.9					17	2.2
Dec. 4.....	.30	6.5	5.2	28	9.3	2.8	1.5	68					
Postoperative Period (Surgery Dec. 4, 1963)													
Dec. 5.....	39		6.9	43	13.7	4.3	2.9	74					
Dec. 6.....	44		6.2	31	10.0	3.5	2.4						
Dec. 7.....	60		6.1			2.5	1.7	140		3.2	4.3		
Dec. 7.....								204‡					
Dec. 9 (A.M.)..	84	10.4	6.2	23	8.5	3.5	2.4	70	Neg	4.8			
Dec. 9 (P.M.)..			4.7										1.3
Dec. 11.....	65	7.2	4.0			1.9	.8	33					
Dec. 20.....	17	1.6	4.0	24	7.5			66					
Dec. 27.....	9	1.4	4.0			.3		38				2	2.2

*BUN = blood urea nitrogen.
†SGOT = serum glutamic oxalacetic transaminase.
‡8 hours later.

On admission the diagnosis was pyelonephritis, and the patient was given 1 gm. of tetracycline intravenously once a day. A prompt improvement in her urinary tract symptoms was followed in three days by right upper quadrant pain, tenderness, and light colored stools. Then a diagnosis of acute cholecystitis and cholelithiasis was made. Despite therapy, her symptoms and signs persisted. By the seventh hospital day, on November 28, 1963, she was grossly icteric. On December 1, 1963, oliguria (225-450 cc./24 hrs.) developed. Infusion of mannitol did not result in diuresis.

Because of the continuing right upper quadrant pain, increasing icterus and decreasing urinary output, a repeat Cesarean section was performed on December 4, 1963, the thirteenth hospital day. Living male infants weighing 2,280 and 2,034 gm., respectively, were delivered. A markedly

dystrophy. Postoperatively, the tetracycline was discontinued. Hyperkalemia developed but disappeared with an increase in urinary output. On the third postoperative day severe, acute, mid-abdominal pain accompanied by elevated serum amylase was noted, but this syndrome lasted only two days. Renal biopsy performed during the second week after delivery demonstrated acute and chronic pyelonephritis. The bone marrow showed a deficiency in folic acid. By the sixteenth postoperative day, December 20, 1963, the azotemia had disappeared. A glucose tolerance test six weeks after delivery was abnormal. The bilirubin was normal three weeks postoperatively. The patient was discharged on the twentieth postoperative day. On follow-up six months later, she was asymptomatic and her weight was 193 pounds (87.7 kg.).

The first twin appeared normal at six months of age. The second twin died of hyaline membrane disease, and autopsy revealed fibrocystic disease of the pancreas.

Discussion

The problems presented by this case were as follows: marked obesity, previous Cesarean sections, twin gestation, acute pyelonephritis, acute cholecystitis, acute renal failure, hyperkalemia, acute pancreatitis, folic acid deficiency anemia, and diabetes mellitus.

Acute pyelonephritis occurs in 1 per cent to 2.5 per cent of all pregnancies,¹² and *Escherichia coli* is the most common organism. The influence of diabetes mellitus on the case cannot be determined inasmuch as no signs of diabetic renal involvement appeared on the biopsy specimen. However, it is known that renal disease is more difficult to control in a diabetic.

Tetracycline is often the drug of choice in acute pyelonephritis. During the past year, previously unrecognized complications with tetracycline therapy for pyelonephritis during pregnancy were reported. Schultz et al.⁵ described six fatal cases due to liver failure, but in every one the intravenous dosage was two and a half to four times the recommended amount. Horwitz and Marymont⁶ described a seventh, but in this case (post partum) 3 gm. were given per day intravenously. Additional cases were reported, and each of these patients also received larger doses of tetracycline than are usually recommended.⁷⁻¹⁰ Lepper et al.¹³ reported that 23 mg. to 36 mg. per kg. of body weight per day of chlortetracycline given intravenously were not toxic to the liver. Dowling and Lepper¹⁰ stated that the maximum concentration of serum tetracycline should be less than 16 mcg. per ml. of serum. Whalley et al.¹¹ stated that the therapeutic levels were considered to be 1-5 mcg. per ml. of serum. In their fatal case the serum levels of tetracycline were 40 mcg. to 63.8 mcg. per ml. of serum. How-

ever, they pointed out that renal function is altered during pregnancy, and renal excretion may be impaired further by acute pyelonephritis until the usually nontoxic levels may accumulate over a period of several days. They reported cases that illustrated toxic changes with renal failure, pancreatitis and liver failure on the recommended dosage of tetracycline. They also stated that tetracycline may be handled differently by the liver during the latter portion of pregnancy. It is of note that almost all of the reported cases of maternal fatality occurred during this period of pregnancy.

In the case reported here, the patient received 8 mg. per kg. of body weight per day intravenously, but this daily administration was continued for several days because of the second complication (cholecystitis), which also required intravenous maintenance.

The most acute problem in this case was renal failure. The mortality during pregnancy is reported to be 20 per cent to 29 per cent; however, the majority of the episodes of renal failure during pregnancy are associated with hemorrhage, sepsis, or blood transfusions,¹⁻³ none of which were present in our case. The usual cause of death with renal failure is bilateral cortical necrosis, sepsis, potassium intoxication, or sudden cardiac arrest.^{14,15} This patient had potassium intoxication but no arrhythmias. Preoperatively, definitive etiology for renal failure could not be ascertained, and postoperatively, the continual improvement could not be explained entirely by the emptying of the uterus. It is of note that the steady clinical improvement of the liver and renal functions began after tetracycline therapy had been discontinued. Kunin et al.¹⁶ reported that in renal disease the blood urea nitrogen and serum tetracycline levels remained elevated for 10 days after cessation of the usual dosage therapy. The present case had fatty metamorphosis of the liver and evidence of renal tubular necrosis, which have been seen with tetracycline tox-

icity. It is our opinion that this case may be an example of severe reaction to tetracycline and substantiates the conclusion of Whalley and associates that tetracycline therapy is different when the patient is pregnant. However, many patients with acute pyelonephritis have been treated with tetracycline without dire results. This experience suggests that there is a variable factor besides dosage and that it may be related to both the severity of the renal disease and the individual's susceptibility. Dowling and Lepper¹⁰ also concluded that contributing factors are: (a) nephropathy, which allows a high serum concentration of the drug to accumulate; (b) duration of therapy permitting an accumulation of the drug in the serum, and (3) perhaps severe or extensive infections.

During pregnancy the likelihood of the precipitation of solids in bile is increased, especially during the third trimester. The gallbladder is hypomobile and larger than normal. The incidence of acute cholecystitis is reported to be 0.02 per cent to 0.03 per cent in pregnancy and is associated with calculi in more than 90 per cent of the cases.^{12,17} Conservative therapy is recommended because in 90 per cent of the cases the cholecystitis will subside within 48 hours. Surgery is indicated only if empyema, common duct obstruction with jaundice, associated pancreatitis or rupture of the gallbladder occurs. Jaundice in pregnancy is considered to be associated with stones in the duct in only rare instances and is reported to be present in only two of 136,000 deliveries.¹⁸ In more than two-thirds of the cases of jaundice with pregnancy, it is secondary to hepatitis or acute yellow atrophy, neither of which was present in this case. The fatty metamorphosis seen in the liver biopsy of this case could not be explained adequately but it resembled that reported with tetracycline intoxication.^{5,6,11}

Pancreatitis associated with pregnancy usually occurs in the last trimester or in the postpartum period but the prognosis for

maternal survival is good.¹² The etiology of pancreatitis with pregnancy is not fully explained. However, if pancreatitis occurs in the postoperative period following cholecystectomy and common bile duct exploration, the mortality has been reported to be as high as 77 per cent.⁴ In the case presented, the patient is believed to have had postoperative pancreatitis inasmuch as she had no previous or subsequent pancreatic symptoms. In contrast to the cases of Whalley and associates, the pancreatitis developed in the postoperative period and after the cessation of tetracycline therapy. They stated that recognition of acute antepartum pancreatitis favorably influenced the survival of four of their five patients.¹

The role of the isolated primary muscular dystrophy in this case cannot be amplified. However, it is considered minor with the exception of possibly having accentuated the right upper quadrant pain with the rectus muscle avulsion. The patient showed no evidence of other manifestations of this disease process.

Summary and Conclusion

A case with multiple complications during pregnancy has been described. The role of intravenous tetracycline therapy has been presented. It is the authors' opinion that when the usual dosage of tetracycline therapy for renal disease is administered during pregnancy that it must be given cautiously and the patient must be observed carefully for possible complications. The following conclusions were particularly important in this case. The development of right upper quadrant pain and jaundice heralded the onset of a series of events which nearly proved fatal to this patient. Delivery and discontinuance of tetracycline therapy resulted in a reversal of the hepatic and renal malfunctions. The similarity in clinical course of this patient to those in the cases previously reported⁵⁻¹¹ makes it seem likely that tetracycline toxicity played a significant role in the pathogenesis. Therapeutic

doses of tetracycline for renal disease in pregnancy may accumulate until they reach toxic blood levels.

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Drug Revolution in Psychotherapy

Following a decade of wide clinical use, psychotherapeutic drugs are firmly established as potent and useful therapeutic agents. These drugs have sparked a revolution in the treatment of major emotional disorders, such as schizophrenia. This tremendously disabling illness, which strikes at an early age and may last a lifetime, is becoming more amenable to treatment. Hospital treatment of the insane, only recently a national disgrace, has now become more humane, more energetic, and, most of all, more effective, due largely to drug therapy.—Leo E. Hollister, M.D. in *Clinical Pharmacology and Therapeutics* (6:417), July-August 1965.

Francis Taliaferro Stribling, M. D.

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A LARGE REPOUSSÉ LOVING CUP decorated in a grapevine pattern has been put on exhibition in the School of Medicine of the University of Virginia in order to pay tribute to Dr. Francis T. Stribling, one of the first to attend the course of lectures in the Department of Medicine and one of the pioneers in psychiatric medicine in this country.

Dr. Stribling was born in Staunton, on February 20, 1810, and received his early education in that city. Following high school, he first aided his father, who was Clerk of Augusta County, and then read medicine with a surgeon in Staunton. He attended the University during the session of 1829-1830. Here he studied chemistry, mathematics, anatomy and surgery under the guidance of Doctors Robley Dunglison, John P. Emmet, Charles Bonnycastle and Thomas Johnson.¹ On his intermediate and final examinations he distinguished himself in the Schools of Chemistry and Materia Medica, of Medicine and of Anatomy and Surgery, but he did not receive the degree of Doctor of Medicine from the University.² Instead, it was conferred upon him by the University of Pennsylvania in 1830. From 1830 until 1836 Dr. Stribling practiced general medicine in Staunton. It was during this period that he married Henrietta F. Cuthbert of Staunton. They had three daughters and one son.

In 1836, when he was only 26 years old, Dr. Stribling was elected Physician to the Western Lunatic Asylum in Staunton. This institution is now generally known as the Western State Hospital and was the second mental hospital founded in Virginia; East-

ern State in Williamsburg preceded it, having been established in 1773, while Western State was created by the Act of Assembly in 1825. Dr. Stribling devoted the next thirty-eight years of his life to the service of the mentally ill in Virginia.

Immediately after his election as physician, he toured the leading mental hos-



Fig. 1. Engraving of Dr. Francis T. Stribling.

pitals along the eastern coast, bringing back to the Western Lunatic Asylum the most modern and progressive ideas concerning the care of the mentally ill. Many of his suggestions were soon put into effect by the Virginia General Assembly and the Board of Directors of this hospital.

In 1840 the Board of Directors decided to unite the positions of physician and su-

¹From the Department of Pharmacology, University of Virginia School of Medicine.

perintendent of the Asylum and elected Dr. Stribling to this position. While he served in this capacity, the number of patients increased from 72 to over 350.³ The annual and biennial reports presented by Dr. Stribling reveal far more than a financial statement of the Asylum and statistical information on the numbers of patients, their ages, sex, civil condition, the supposed cause of their insanity, the time spent in the Asylum, their condition, prospect, the results and a few remarks, for they reveal the doctor concerned continually with the welfare of his charges and sympathetic to their needs. Over one hundred years ago, Dr. Stribling appreciated the benefits of food and amusements in abundance and variety, of physical exercise and of useful labor. He fought for adequate housing and proper sanitary facilities. He stressed the importance of a library well stocked with books, magazines, and periodicals and insisted that the attendants be adequately trained.⁴ It was he who instituted the practice of allowing certain patients to leave on furlough. He resented being called frequently from his patients at the Western Lunatic Asylum to serve as an expert medical witness in the courts throughout the State and finally won a reprieve from such duties.⁵

In the interest of the insane he prepared a bill for the governing of the institutions for the mentally ill in Virginia, which the General Assembly passed in the Session of 1841-1842. He was one of the thirteen organizers of the Association of Medical Superintendents of Institutions for the Insane, the progenitor of the American Psychiatric Association. He was active in this organization throughout his life and for his efforts was honored in its centennial volume, *One Hundred Years of American Psychiatry* (New York, 1944). Dr. Stribling was one of the prime movers in the efforts to establish the state institution for the deaf, dumb and blind at Staunton and a hospital for the colored insane at Petersburg.

With these exceptions Dr. Stribling's medical career was dedicated to the practical care of his mental patients at the Western Lunatic Asylum. He wrote little other than the annual or biennial reports of the Asylum. The only article he prepared for publication was the "Qualifications and Duties of Attendants on the Insane", which appeared in the *American Journal of Insanity* in 1852.

"In token of their high appreciation of his long and meritorious services to the State and invaluable benefactions to afflicted humanity", the Board of Directors of the Western Lunatic Asylum presented the loving cup to Dr. Stribling on January 1,



Fig. 2. Silver cup presented to University of Virginia by Mr. Francis T. Stribling Powell of Staunton, Va. (photograph by Mr. R. Thompson).

1857. It had been made by Tiffany and Company of New York and inscribed with the above tribute to his great medical and administrative ability and to his constant concern for his patients.

Dr. Stribling died in Staunton on July 23, 1874. The cup passed on to his son and finally to his grandson and namesake, Francis Taliaferro Stribling Powell, of

Staunton. As he had no children, Mr. Powell in 1947 presented it to the University, considering it the most appropriate repository. At first the cup was displayed in the Public Documents Room of the Alderman Library, but the original intention had been that it should finally be situated in the School of Medicine. Here it is a visual reminder to young men preparing for a career in medicine of the acknowledged greatness of one of the first students in the School of Medicine.

FOOTNOTES

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First-Aid Cooling

Surface cooling of burns, using cool compresses at 50° to 57° F., is a first-aid measure that should be started as soon as possible.

If the burn has not been cooled during a greater portion of the first 30 minutes after injury, its course is not likely to be altered, two surgeons advise.

In a study of several hundred experimental burns, various time intervals up to 30 minutes were allowed to elapse between infliction of the burn and the application of cool compresses at 10° C. to 14° C.

Data suggest that 80 to 85 per cent of the edema that follows burns develops within the first half hour after injury. Thus surface cooling can be beneficial if instituted promptly and continued for at least 30 minutes.

Since the physician often does not see a patient during this early postburn period, Drs. Thomas C. King and Jack M. Zimmerman of the Kansas University Medical Center urge that this treatment be made known to industrial plants, laboratories, homes and other places where burns ordinarily occur.—*Surgery, Gynec. Obstet.*, June, pp. 1271-73.

Clinicopathological Conference

Cardiac Murmur, Hepatomegaly, and Diarrhea

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This conference was held on
October 31, 1964.

UVH# 48-92-15
Autopsy No. 9759

Clinical History

This was the fifth hospitalization within three years for this 62-year-old, retired Negro barber. He had become progressively weak and anorectic, having been bedridden at home for a month prior to admission.

The patient was first seen here in the medical department in 1948 with sciatic pain, which responded to conservative orthopedic measures. Incidental findings then included BP 180/68, bounding pulses, a forceful cardiac apical impulse, and a grade 3 diastolic precordial murmur. There was no history of rheumatic fever, and serology was negative. He was apparently free of symptoms thereafter until 1959. At this time he was seen in the surgical department with a mass in the neck. Incidental physical findings again suggested aortic regurgitation, unchanged from 11 years before. After another two-year period of observation, a subtotal thyroidectomy was performed in 1961. This revealed an adenomatous nodule with cystic degeneration.

He was next admitted in 1962 because of substernal aching and epigastric distress. The heart was unchanged on physical examination, and the lungs were clear, but the liver was down 3 cm. and tender. Electrocardiogram showed left ventricular hypertrophy. Upper gastro-intestinal and gallbladder x-rays and liver function mea-

surements were normal. Digitalis and diuretics resulted in an 11 pound diuresis and subjective improvement.

He was readmitted six months later because of right pleuritic pain of two weeks duration. Systems review at this time revealed that in the interval since his previous admission there had been anorexia, easy fatigue, a 10 pound weight loss and four to five watery bowel movements per day. Physical examination was unchanged except for a pleural rub on the right; the liver was still enlarged. There was also a benign, adenomatous polyp of the rectum, which was excised at proctoscopy. Barium enema was unremarkable. The finding of a WBC count of 27,500 with some increase in juvenile forms led to studies for leukemia, but bone marrow did not confirm this diagnosis. There was a spontaneous improvement in symptoms, the diarrhea was attributed to digitalis, and he was discharged. Chest x-rays showed no cause for the pleurisy.

On follow-up in the clinic the blood picture improved, but enlargement of the liver persisted despite minimal cardiomegaly by x-ray. He was re-admitted for general evaluation in 1963 because of an elevated serum alkaline phosphatase, 11% BSP retention and hyperglobulinemia. Multiple studies, including needle liver biopsy, were negative. Fecal fat excretion was 12 gm./

day, and d-xylose excretion in the urine after a test dose was 2.9 gm./5 hr. (normal 5 or more.) A liver scan suggested decreased uptake in the right lobe, and a laparotomy was performed. The liver contained multiple white-yellow nodules, read pathologically as "metastatic malignant tumor, probably carcinoid". No primary neoplasm was identified.

Post-operatively there was some subjective improvement, but the patient remained emaciated, having lost 35 pounds in the preceding two years. There were no flushing spells, but diarrhea continued. A urine test for 5-hydroxyindole acetic acid was positive. Symptoms included generalized paresthesias and pruritis; cardiac status was unchanged. Trials of chlorpromazine, methysergide ("Sansert"), and cyproheptadine ("Periactin") were given without definite benefit. After December, 1963, clinic appointments were not kept because the patient was too debilitated to get here from Waynesboro. There had been a brief series of syncopal episodes four months ago with apparent spontaneous cessation. On the day of admission the patient told his wife, "I want to go to the University Hospital."

Physical examination was not completed. He was a cachectic colored male with BP 110/60, P 84, and respirations 24/min. He was described in the Emergency Room as moribund, later on the ward as in no acute distress. The pulse pressure was no longer wide, the sclerae were thought to be icteric, the liver was again massively enlarged, and ascites was present.

Approximately two hours after admission, the patient vomited approximately 100 cc. of undigested material. An electrocardiogram was changed in showing marked reduction in voltage from the previous findings of left ventricular hypertrophy and strain, and frequent ventricular premature beats. No other laboratory studies were obtained. The patient may have aspirated at the time he vomited. Shortly thereafter he became unresponsive, incontinent and cyanotic, and resuscitative efforts were unsuccessful.

Discussion

Dr. Kenneth Crispell: Many of you will be familiar with a syndrome which has recently been given the name of Baron Munchausen, which refers to patients who travel from hospital to hospital with a number of symptoms which are purely fictitious. It has been suggested by Dr. McKusick at Johns Hopkins that the syndrome under discussion here might be given the name Jules Verne, for its component manifestations are at first so diverse as to test the credulity of the most hardened clinician. Fact at times is stranger than fiction. The Jules Verne of this piece is Pierre Masson who 40 years ago insisted on the endocrine function of the entero-chromaffin cells and referred to the carcinoid tumors derived from these cells as endocrine tumors. I am going to discuss this case as though the patient had several manifestations of the carcinoid syndrome. I think he had other disease entities as well, but I do this because the liver biopsy said "probably carcinoid", and that he had a positive urinary test for 5-hydroxyindole acetic acid. This man was first seen in this hospital in 1948 at the age of 44 with sciatic pain. He apparently received conservative orthopedic measures, and the only other thing found at that time was that he did have high systolic blood pressure, bounding pulses, and a diastolic murmur at the left sternal border. This seems like aortic regurgitation, doesn't it, Dr. Wood?

Dr. J. Edwin Wood, Jr.: That's right. I saw him in 1948 and in 1961. We could not satisfactorily explain his aortic regurgitation. He had a negative serology. He could have had syphilis twenty years earlier, and developed aortic regurgitation but lost the serological reaction twenty years later. It seems unlikely, but possible. It is also very unlikely that a man would have significant regurgitation of luetic origin without some hallmark in the first portion of his aorta by fluoroscopic examination, which we looked for and as far as I recall did not find.

Dr. Crispell: That's fine, although we still do not know why he had aortic insufficiency. He had no history of rheumatic disease and

serology was negative. We saw this man in the hospital 11 years later, and at that time he was found to have a mass in his neck which was a thyroid lesion. In 1961 he had a thyroidectomy and was found to have an adenomatous nodule with cystic degeneration. He was admitted in 1962 because of substernal aching and epigastric distress, rather ill-defined symptoms that could be many things. He apparently had some element of heart failure. He was digitalized and received diuretics, and had an 11 pound weight loss. I don't know if this is tantamount to a diagnosis of congestive heart failure. Let us say these are two parallel lines at the moment. He then had right pleuritic pain of two weeks duration. I am told that a pulmonary infarct was looked for and could not be substantiated by the usual means. Now for the first time we find this man has anorexia, 10 pound weight loss, and four to five watery bowel movements per day. Enlarged liver and diarrhea are the first sign that this man possibly has what we are going to discuss as the carcinoid syndrome. He now has minimal cardiac enlargement by x-ray, and in 1963 we find he is getting probable involvement of liver function with elevated alkaline phosphatase, BSP retention and hyperglobulinemia. Perhaps there is another interpretation of these findings but certainly they are compatible with diffuse liver disease. He now shows some evidence of malabsorption, that is, his fecal fat is 12 grams a day, the normal being six to seven grams per day. He had failure to absorb D-xylose. I will not enlarge on this other than to say that Dr. Respass said at Grand Rounds the other day that the best test of malabsorption was increased fecal fat. Were serum calcium and phosphorus, or sodium or potassium measured? The reason I asked is that I would like to know whether he had severe malabsorption, and whether or not he had a loss of potassium, and part of his weakness was on the basis of potassium depletion.

Dr. Lockhart McGuire: In May of 1963 there was no measurement of calcium or phosphate, his sodium was 135 and potas-

sium 4.7. A temporary prolongation of prothrombin time probably reflected poor fat absorption.

Dr. Crispell: So he apparently was keeping up with his potassium loss. May we see the liver scan, Dr. Evans?

Dr. William Evans: (See Figure 1) This scan was done in 1963. There is a large area of diminished uptake in the center of this tracing, and a number of other scattered areas of smaller size. This scan was done with gold. If you put this on television and vary the intensity you can pick up a number of small areas that are about 3 to 5 mm. in diameter that are fairly discrete. With the multiplicity of areas the more likely thing is metastatic disease. This indentation on the upper left is the cardiac silhouette. The fall-off of density along the edge is because of the change in thickness normally. We can see somewhat this same picture with cirrhosis, but we usually don't see in that case such good uptake generally. That is a good uptake in the functioning parts. The smallest lesions you could ever pick up with this technique using multiple scans would be in the range of 0.5 cm. diameter. The nice thing about gold is that you can do multiple scans, whereas if you use Rose Bengal it disappears in about an hour.

Dr. Crispell: Thank you. This man obviously did not have a diagnosis because on the liver biopsy we didn't hit these nodules with the needle. This man was then explored and the biopsy was read as "metastatic malignant tumor, probably carcinoid". There were no flushing spells. We studied one of the first patients with carcinoid syndrome through the courtesy of Dr. Shotton in Lynchburg. Dr. Shotton attended a meeting of the American Society of Clinical Investigation when Dr. Sjoerdsma presented his original paper on the biochemistry of this problem, and as we came back from Atlantic City, Dr. Shotton said he thought he had such a patient in his practice. He sent the patient to us with the diagnosis established because of the presence of 5-hydroxyindole acetic acid. I wonder how difficult it is to see vascular changes in

a Negro. Was there any suggestion of vascular changes at any time, since the flush might be hard to see?

Dr. Burton Benjamin: No, this was looked

Dr. Crispell: No. I will come back to that in a minute. I wanted to bring out that he had ascites which could be on the basis of his liver disease, or, as we saw in one case,



Fig. 1. A scintillation scan over the liver after the administration of radioactive gold. The light areas of decreased activity represent nodules of metastatic tumor.

for closely and wasn't found. There was no asthma, either.

Dr. Crispell: We have seen three cases in this hospital with flushing, usually accompanied by a drop in blood pressure, often with persistent diarrhea and asthmatic attacks. These findings as originally described by the Swedish group usually represent a carcinoid tumor with metastasis to the liver. Before we go on to discuss the chemistry of this, I will say that I can't decide what happened at the terminal event. I suppose that he probably had luetic aortitis and maybe his terminal event was cardiac.

Dr. Wood, Jr.: May I ask a question? As I understand it the cardiac involvement in this disease is almost always in the pulmonic or tricuspid valve. This patient could perfectly well have had pulmonic regurgitation, but in this instance do you feel we can attribute the cardiac situation to the carcinoid?

compression of the vena cava at the level of the diaphragm. I purposely left out the question of the valvulitis because this is one of the most difficult things to get at, as Dr. Wood says. This is usually a right sided heart lesion. There are two cases in the literature with patent foramen ovale and involvement of all four valves, so I suggest that there are some things about the pulmonary circulation which inactivates whatever the substance is that causes the valve disease. When this syndrome was first described we talked only about serotonin. Historically, 5-hydroxytryptamine (serotonin) was known to be produced by the enterochromaffin cells of gastro-intestinal tract. This is the same substance Dr. Page and Dr. McCubbin at Cleveland Clinic isolated from plasma as a vasoconstrictor. Drs. Sjoerdsma and Udenfriend beautifully worked out the chemistry. It starts with tryptophan, which is hydroxylated to 5-hydroxytryptophan

and decarboxylated to 5-hydroxytryptamine (serotonin). The final step is an amino-oxydation to 5-hydroxyindole acetic acid, and this substance is excreted in the urine in excess in patients who have the carcinoid syndrome. This is an easily done colormetric test and the only difficulty with this test is it apparently can be influenced by some foods, principally bananas. If one has a patient with diarrhea and flushing, right sided heart lesions, one usually finds the elevation of 5-hydroxyindole acetic acid in the urine. This picture changed in 1963, but before I go further, however, I would like to bring out that this patient received chlorpromazine ("Thorazine"), cyproheptadine ("Periactin"), and methysergide ("Sansert"). Dr. Owen, was there any rationale for giving these drugs, and is there any drug which might have been more beneficial?

Dr. John A. Owen, Jr.: The literature is full of reports of unlikely drugs being successful and very likely drugs proving to be quite unsuccessful in the treatment of symptoms of carcinoid syndrome.^{1, 2} The problem is either to prevent the reactions which you mentioned for the production of serotonin or to promote the elimination of serotonin. The drugs which have already been referred to—cyproheptadine and methysergide—have mainly another sort of action, which is to block the action of serotonin on the body cells. These agents are effective serotonin antagonists in biochemical assay systems, and have been given with fair response in some patients with manifestations believed to be jointly produced by histamine and serotonin. So, I would say they are peripheral blockers. In carcinoid, out of about seven patients who have been treated with cyproheptadine three have had a definite response and two more a transient, questionable response. One report of a patient receiving methysergide indicated no response. Chlorpromazine has also been effective in about 50% of cases in which it has been tried, but the effect of any of these agents seems to decline with continued use in any individual patient. I think the drug which Dr. Crispell was referring to was

alpha methyl dopa ("Aldomet"). This drug might be useful because it is a competitive inhibitor of the decarboxylase reaction and prevents the formation of 5-hydroxytryptamine. I am not sure what lasting benefit this would confer, because there have been reports of patients with gastric carcinoids, who excrete mainly 5-hydroxytryptophan to begin with, and these people have a lot of trouble with flushing as well. At any rate, the literature that I could review mentioned six patients with the carcinoid syndrome who received alpha methyl dopa, and two of these got a very good effect.³ I would like to mention that there are a number of drugs which have been tried without an obvious rationale, which have occasionally been successful. These include methylprednisolone, atropine, heparin and phenylacetic acid. One of the early drugs tried was isonicotinic hydrazide, because it binds pyridoxyl phosphate, and pyridoxine is a co-factor for the decarboxylase reaction already mentioned. This is no longer used.

Dr. Crispell: Thank you, John. Now I would like to refer to the work of Dr. James Oates, which may provide some new insight into the situation.⁴ Carcinoid flush has hitherto been explained by the doubtful answer: "Flushing attacks are associated with carcinoid tumor. Overproduction of 5-hydroxytryptamine is associated with carcinoid tumor. Therefore, the flushing attacks associated with carcinoid tumor are due to the overproduction of 5-hydroxytryptamine." The biggest trap that any scientist can fall into—two parallel lines. When we discussed the subject last year, attention was drawn to the work of Robertson and colleagues, which seriously challenges this assumption.⁵ Intravenous 5-hydroxytryptamine injection does not produce typical attacks of flushing, although adrenalin does, and there is little correlation between free plasma serotonin levels and flushing episodes. The weight of evidence, however, does favor some humoral agent, and Robertson felt that bradykinin might repay further attention. Bradykinin is one of the naturally occurring vasodil-

atory agents, a polypeptide. It has been synthesized, and the synthetic material is the same in all respects as that isolated from plasma. It is a nonapeptadide with five known actions in the body. It stimulates smooth muscle, particularly the intestine and the bronchioles; it causes vasodilatation and increased capillary permeability; it stimulates nerve fibers, and may be the so-called "P.P.S.", or pain-producing substance of Dr. Harold Wolfe; and it causes migration of lymphocytes. The key to this, and the reasoning that Dr. Oates used, was the fact that adrenalin would produce flushes, that serotonin would not, and that adrenalin was known to release a kinin from salivary glands. It was next found that giving synthetic bradykinin to people with carcinoid tumors would reproduce the flush, hypotension, tachycardia and tachypnea. Dr. Oates has recently shown that large amounts of bradykinin are released into the portal circulation in these patients during flushes or the administration of adrenalin. This has to be done by catheterization, because the half-life of bradykinin in the plasma is a few seconds. The other major observation is the fact that the tumor tissue, itself, in these patients contains large amounts of the kinin-forming enzyme. It would appear, then, that we have good evidence that this enzyme in the tumor acts on a beta-globulin in the plasma to release a kinin, which has recently been shown to be bradykinin. So much of our thinking has to be shifted from serotonin, which didn't explain anything in the first place, to bradykinin which does explain a large part of the symptoms of the carcinoid syndrome. Incidentally, it is worth pointing out here that, with possibly one exception, it is hypotension rather than hypertension which accompanies the carcinoid flush. Could bradykinin have anything to do with the cardiac valvulitis? There is some evidence from the literature that agents which cause increased capillary permeability may eventually cause a disturbance of endothelium or endocardium. An interesting thing is that those patients with severe valvulitis

have had constant elevations of bradykinin, whereas the patients with only intermittent flushing and diarrhea without valvulitis, have not had a constant elevation of bradykinin. There is good evidence that bradykinin, which is present in the portal circulation, is gone by the time it reaches the arterial system. So, whether there is something about a constant bathing of the right side of the heart by bradykinin, followed by removal of whatever the active substance is within the pulmonary circulation, which explains this situation, is an exciting question, which we seem to be close to answering.

Dr. Wood, Jr.: Would bradykinin explain the wide pulse pressure?

Dr. Crispell: Yes, I think it would, because it produces peripheral vasodilatation. And some of these people have had so-called high output heart failure, which is associated with wide pulse pressure.

Dr. Thomas Hunter: This patient had no flushing. Does this imply that some of these tumors do not contain the kallikrein enzyme, but still may produce serotonin in excess?

Dr. Crispell: I presented this to you as if it were complete. Actually, I think we have to do exactly what you are suggesting. Here is one that apparently had only diarrhea. I am not sure that I can tell Dr. Smith whether he is going to find valvulitis on this basis. We will probably find another patient who has primarily asthma. My hunch, and it is only a hunch, is that we may find that there are several different kinins. The world of polypeptide chemistry is just opening up. We have now only the beginning evidence that a kinin is involved in this syndrome. Dr. Oates's method for measuring bradykinin is still a difficult one, involving a bioassay system. This subject reminds me of the last paper written by the late Dr. Frank Engel.⁶ It was an editorial on, "Young man, learn polypeptide chemistry. This is the new era in medicine." We now have angiotensin and bradykinin, and I suppose there will be many more. Let us go back for a minute and discuss this patient. Does he have car-

cinoid tumor? Does he have anything else? The findings that fit with carcinoid include the biopsy, the fact that he had increased 5-hydroxytryptophan in the urine and that he had watery diarrhea. As you know bradykinin is a potent stimulus to the gut. He did not have flush or asthma, but he did have a valvular lesion. I suppose it is possible that the valvular lesion is on this basis, but I cannot explain it if it is an aortic lesion, and I would hesitate to tell Dr. Wood that it was a pulmonary or tricuspid lesion.

Dr. Wood, Jr.: I would say that if this were aortic regurgitation of any magnitude, as suggested by the blood pressure, then over a period of years the left ventricle should have gotten larger, so that we have to reconsider the possibility of a right-sided lesion.

Dr. Crispell: Before closing, I must add that I can find no evidence that any other malignant process is at work here, and the information in the protocol does not permit me to guess the origin of this tumor, that is, the colon or small bowel as the site of the primary lesion.

Dr. Burton Benjamin: This man was urged to go to the National Institutes of Health in order to obtain possible benefit from the new agents being tried there by Dr. Sjoerdsma's group. I would like to mention a recent report of one case of carcinoid with massive hepatic metastasis, which was treated by regional perfusion via the hepatic artery with an alkylating agent.⁷ The liver shrunk markedly, the plasma and urine 5-hydroxytryptophan levels fell, and symptoms abated. I bring this up because this is a very slowly growing tumor, and such otherwise radical treatment may be quite applicable and beneficial in these cases.

Dr. Crispell: I agree. Our original patient went twelve years after his original laparotomy. Dr. Smith, I think he has a carcinoid tumor with liver metastases. I wouldn't go much further except that I think he has an aortic valvular lesion, not due to the carcinoid. Perhaps this is luetic, but I don't have any basis for that.

Dr. David Smith: Are there student opinions?

Dr. Al Carr, Medical Resident: Both student groups felt that there was malignant carcinoid and an unrelated aortic valve lesion, in the absence of a patent foramen ovale.

Dr. David Stone: Could the primary be in the lung? Haven't there been carcinoids arising in the bronchi, with left-sided lesions of the heart?

Dr. Lockhart McGuire: There have now been several cases with primary carcinoid in the bowel with liver metastases only, without a patent foramen ovale, but with left-sided heart lesions.⁸ You do not have to postulate a lesion in the lung or a right-to-left shunt to have carcinoid involvement of the left side of the heart apparently.

Pathological Discussions

Dr. David E. Smith: This man was tremendously emaciated. The autopsy rather immediately confirmed the diagnosis of carcinoid tumor with hepatic metastases, for when the abdomen was opened and 3,000 ml. of ascites removed, large masses of yellow tumor tissue were easily apparent in the grossly enlarged liver, which weighed 2,250 gms. (Fig. 2) The primary site of the tumor



Fig. 2. Yellow nodules of metastatic carcinoid in the enlarged liver.

was found in the terminal ileum, where there was one small nodule followed by a larger one approximately 1 cm. in diameter on the mucosal surface. These nodules were

not ulcerated, but on incision a yellowish tumor could be seen in the submucosa extending into the muscularis. The larger nodule actually bound the terminal ileum into the ileocecal valve and wall of the colon and was surrounded by a considerable zone of greyish fibrous tissue. Yellow metastatic tumor was present in many mesenteric lymph nodes, but no other metastases were found than in these nodes and in the liver.

The tumor at all sites presented histologic characteristics of small, relatively uniform cells with round nuclei arranged in nests and solid groups. This morphology was identical to that first seen in the liver biopsy. (Fig. 3) A Bodian stain, which is a silver

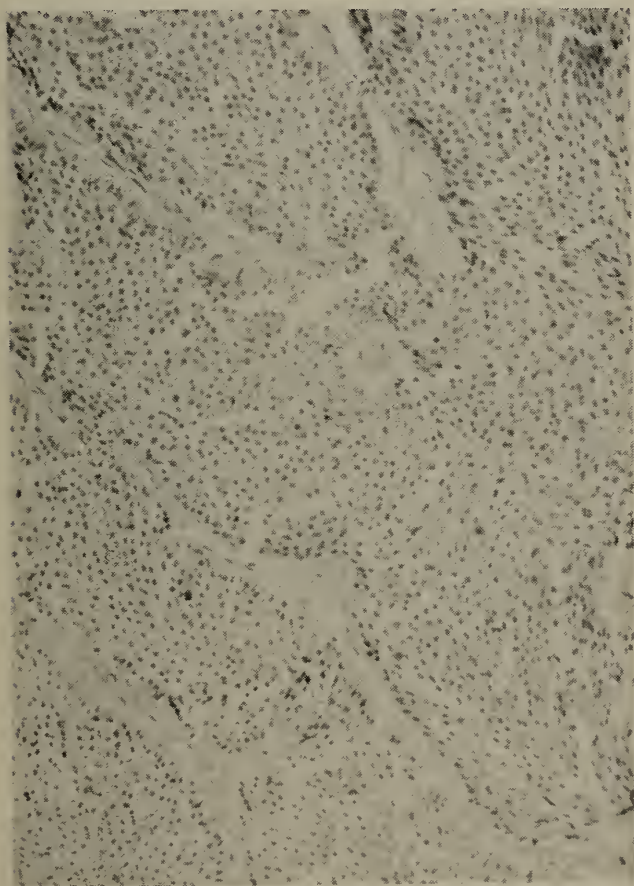


Fig. 3. Uniform cells with round nuclei forming sheets and islands typical of carcinoid in the liver biopsy. (H. & E. stain, approx. 150X.)

suspension that is precipitated in the cells of this tumor by the action of a chemical substance within the cells, presumably 5-hydroxytryptamine, is illustrated in the next figure (Fig. 4). This feature of reduction of a silver solution was one that enabled Pierre Masson to correlate these cells with

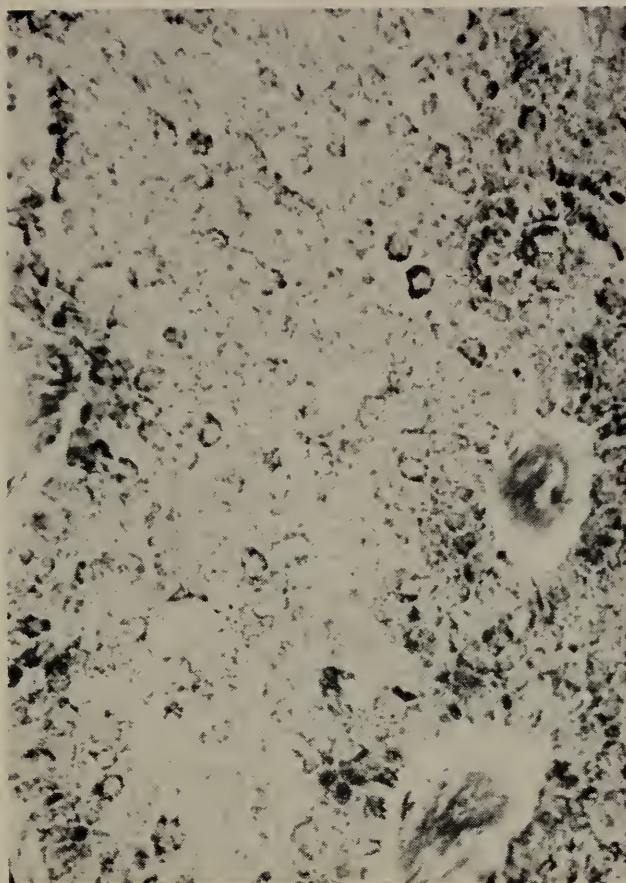


Fig. 4. Argentaffin properties of the carcinoid cells as illustrated by the precipitation of granules of silver in the cytoplasm. (Bodian stain, approx. 250X.)

the Kulchitsky cells of the crypts of the ileum and to predict some of their functions and secretory properties. Carcinoids of the intestine are essentially tumors that arise probably in the depths of the crypts of the mucosa and extend into the submucosa, so that they are typically beneath the mucosa and not ulcerated. This characteristic direction of growth is correlated with the lack of constriction and obstruction of the intestine, which contrasts to the usual picture with carcinomas.

This case confronts us with the likelihood that the tumor was present in the liver for at least two years since the hepatomegaly was discovered and the possibility that it had been present for 14 years since the cardiac abnormalities were first described. Carcinoids are generally recognized to be slowly growing tumors, and various studies of recent date have suggested a duration for even the more malignant carcinomas that is surprisingly long.⁹ The heart, in this

case, contains changes which are quite typical of the carcinoid syndrome and may well be responsible for the abnormalities observed so long before the patient's death.

The heart weighed only 310 gms. and showed no evidence of hypertrophy. The leaflets of the pulmonary valve (Fig. 5)

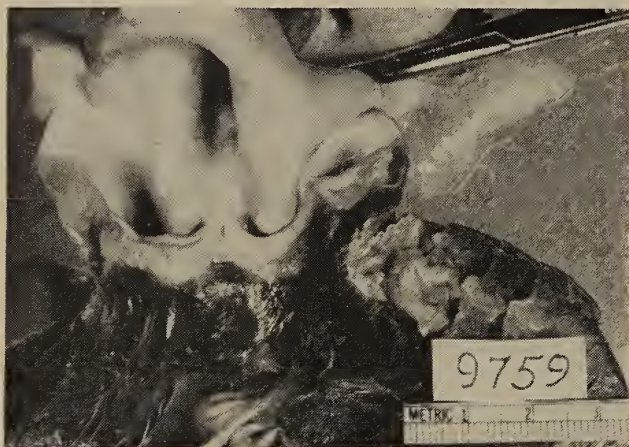


Fig. 5. Thick, rolled cusps of the pulmonary valve: a typical deformity of carcinoid heart disease. A similar process involved the tricuspid valve and the endocardium beneath the aortic valve, but the heart was not enlarged.

were rolled, thickened, and retracted. A lesser degree of a similar change was present on the tricuspid valve. The right ventricle was not dilated or hypertrophied, and it would seem that these valvular lesions had failed to produce a significant hemodynamic disturbance. Beneath the essentially normal aortic valve there was a patch of irregular fibrous thickening of the endocardium that might be related to the same process that had deformed the pulmonary valve; however, the valves and chambers of the left side of the heart provided no abnormalities to correlate with the clinical observations. It seems quite apparent that the cardiac anomalies were always centered on the right-sided structures and had never involved sufficient valvular incompetence to lead to cardiac hypertrophy.

In microscopic sections of the pulmonary valve, it can be seen that the thickening is due to an accumulation of connective tissue that is generally described as collagenous. (Fig. 6) A phototungstic test hematoxylin stain shows that many of these fibers, instead of staining the orange of collagen,



Fig. 6. Pulmonary valve with a thick layer of finely fibrous tissue above the normal subintimal membrane which extends from just above the middle of the left side of the illustration to just to the right of the middle of the bottom edge. Many of these fine fibers stained blue as does fibrin. (Phototungstic acid-hematoxylin stain, approx. 400X.)

stained blue of fibrin. This, in more sophisticated analysis, suggests that an essential element of this thickening might be the deposition and transformation of fibrin rather than the ordinary formation of collagen. Dr. Earl Benditt,¹⁰ of the University of Washington, has proposed that this thickening might result from a hardening or "tanning" of fibrin by a process similar to the formation of chitin, or the hardening of the cuticle of arthropods. It is now generally suspected that a process of continuous deposition of fibrin on endothelial surfaces may play a part in various lesions, such as atherosclerosis, and is prevented from naturally becoming excessive only by the activity of the fibrinolytic systems. Perhaps one of the several substances which could be secreted by carcinoid tumors could affect the fibrin naturally so deposited in such a way as to resist the normal fibrinolytic pro-

cesses of the body. Benditt demonstrated that oxidation products of 5-hydroxytryptamine were capable of exerting such a tanning action on fibrin. The thesis has been attractively investigated by Drs. Hampton R. Bates and Richard F. Clark of Richmond.¹¹ Although they were unsuccessful in demonstrating a natural substance in metastatic carcinoid that led to tanning of fibrin, the possibility still exists that the 5-hydroxytryptamine of the tumor when released into the circulation could be oxidized by normal concentrations of plasma ceruloplasmin to form compounds that would tan fibrin that gradually accumulated on the valves of the heart, and that this tanned fibrin would eventually become the deforming fibrotic deposits we recognized in this syndrome.

The post mortem examination has confirmed the interpretation that this is a case of metastatic carcinoid. There are significant valvular lesions of the heart which are definitely of the type seen with carcinoid tumors, but which seem to have created no significant hemodynamic strain. It is an intriguing possibility that the tumor and the abnormalities in the heart may have existed for as long as fifteen years, with the cardiac murmur having its foundation in the structural changes in the pulmonary valve and the wide pulse pressure being an expression of the presence of bradykinin. Regrettably, we did not have the facilities to do further analysis of the chemical activities of the tumor tissue. The extreme emaciation and such changes as gelatinous atrophy of the bone marrow were indicative that the ultimate cause of death in this man was essentially a process of starvation.

Dr. Crispell: An additional thing I would like to mention is that these patients may actually have a disturbance which resembles pellagra besides the manifestations of starvation. This is probably on the basis of competition of the metabolism of serotonin with that of tryptophan. Two other patients we

followed also literally starved to death. They wouldn't eat, they were weak, they were filled with tumor, and we did not find another immediate cause for death.

Anatomical Diagnoses

Carcinoid of terminal ileum with metastases to mesenteric lymph nodes and liver

Carcinoid heart disease involving the pulmonary and tricuspid valves Emaciation.

(U. Va. Autopsy 9759.)

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Facial Deformities Program

The Virginia State Department of Health makes a continuing effort to improve its services to medically indigent children. One of these services is the Facial Deformities Program of the Bureau of Crippled Children.

This program was begun in July 1957 with Federal funds, from the United States Children's Bureau, supplemented by State funds. Six hundred and eighty patients were evaluated during the period from July 1, 1957, to July 1, 1965, through the Facial Deformities Clinics, and treatment was started as indicated. A large majority of these patients have a cleft palate and/or cleft lip, and they come from throughout the Commonwealth to attend the Facial Deformities Clinics held at the Crippled Children's Hospital in Richmond.

Treatment may consist of plastic surgery, dental care, speech therapy, audiological services, ENT services, or any combination of these.

A patient with a simple unilateral cleft lip may require only one plastic procedure although he may be kept under observation for a period of years. A patient with a severely mutilated palate may require up to a dozen plastic procedures, oral surgery, orthodontic and/or prosthodontic treatment, intensive speech therapy, and audiological services over a period of years.

The pediatric work-ups, in the Facial Deformities clinics, have revealed that many of the cleft palate patients have one or more additional associated congenital deformities. These may include congenital heart disease, congenital amputations, club feet, rib or spinal deformities, congenital GU conditions, et cetera. Fortunately Facial Deformity Program patients can receive treatment for their other congenital deformities through other Bureau of Crippled Children services.

The infant with a mutilated lip and palate presents a severe emotional shock to the family. Frequently severe feeding problems, with the resulting nutrition problems, result in many difficulties prior to repair of the palate.

Approximately one year is required to repair the palate through the Facial Deformities Program. An arch expansion appliance followed by grafting to the upper arch may be done, for carefully selected patients, several months prior to surgery for closure of the palate.

Communication with others is almost essential for daily living, and speech, of course, is the most commonly used and accepted form of communication. A functioning oral cavity is needed for speech. Plastic surgery alone may make good speech possible for a patient with a simple cleft of the soft palate, surgery and intensive speech therapy may be required for the more severe cleft palate cases. A dental prosthesis with speech bulb, and intensive speech therapy may be required for acceptable speech for the patient with a badly mutilated palate. Some youngsters with poor speech may have only a short or paralyzed palate. A pharyngoplasty with a brief period of speech therapy may be all they need for marked improvement in speech.

Oral surgery, which in an extreme case may involve resection of the lower jaw, prosthodontics, minor or major orthodontics may contribute much to the appearance of a cleft palate patient. This in turn may contribute a great deal to the emotional security and social acceptance of these patients. Restorative dental care is important to the patients general health.

The core of the Facial Deformities Program is the Facial Deformities Clinic. The Facial Deformities Clinic Team consists of a plastic surgeon who serves as medical di-

rector of the program, a pedodontist who serves as associate director, a pediatric consultant, speech and hearing consultant, speech therapist, and medical-social consultant. A treatment plan is formulated when the patient is evaluated in the Facial Deformities Clinic.

The dental treatment plan is formulated when the facial deformity patient is seen in the Dental Evaluation Clinic. Here the team consists of the pedodontist, an oral surgeon, a prosthodontist, an orthodontist, speech and hearing consultant, and medical-social consultant.

The interest and assistance of the family physician and local Health Department are of primary importance for successful follow-up and treatment of a Facial Deformities patient through case finding, early

referrals, interpretation and supportive treatment, and the physical care and treatment needed.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Aug. 1965	Aug. 1964	Jan.- Aug. 1965	Jan.- Aug. 1964
Brucellosis -----	1	2	7	14
Diphtheria -----	0	0	0	0
Hepatitis -----	49	41	526	388
Measles -----	47	75	4317	13137
Meningococcal Meningitis --	2	2	51	44
Meningitis (Aseptic) -----	3	1	9	9
Poliomyelitis -----	0	0	0	0
Rabies (In animals) -----	9	27	275	230
Rocky Mt. Spotted Fever ----	10	11	34	31
Streptococcal Infections ----	435	628	8105	7778
Tularemia -----	1	0	6	4
Typhoid Fever -----	2	0	6	10

Drinking & High Flying

If you drink, don't fly—especially don't fly above 25,000 feet.

Even one shot of 100-proof whiskey, equivalent to a single martini, caused an overall drop of 38 per cent in time of useful consciousness in a group of Air Force volunteers.

This small amount of alcohol in the blood lowers most persons ability to remain conscious in the rarified air at 25,000 feet, two Air Force investigators said.

Dr. Joe L. Nettles and Robert N. Olson of McCoy Air Force Base, Fla., described an experiment designed to learn how alcohol influences a flier suddenly subjected to rapid decompression, as might happen if an airplane cabin suddenly decompressed while the craft was flying at 25,000 feet. In the event of rapid decompression, the flier may have just a few seconds of useful consciousness in which to switch to emergency oxygen equipment. Anything that shortens the time of useful consciousness might mean the difference between life and death.

Diagnostic Laboratory Medicine . . .

The Diagnosis of Viral Hepatitis—Current Status

In spite of continuous efforts by many investigators during the past 25 years, there is still no specific laboratory test for the diagnosis of viral hepatitis.

A number of investigators, however, have reported success in detecting the virus (es) using tissue culture techniques from plasma, serum, feces, urine and liver tissue of patients with viral hepatitis. Serotyping of some of these isolates reveals at least three different serotypes which are interchangeably associated with infectious and serum hepatitis. Considerable work has been done along these lines since the first reported success with the tissue culture techniques in 1956. Some of the isolates have fulfilled Koch's postulates, but in spite of simplification and refinements, the techniques have remained difficult to reproduce and are available, at the present, only as research tools.

Another of the major difficulties in the study of these agents has been the failure to find a suitable animal susceptible to infection by the virus (es). A Louisiana group has reported success in infecting a single primate with serum from a patient with hepatitis. They believe that past failures may have been due to the development of immunity in the animals. In the future, they plan to breed "virus-free" animals and continue their investigations.

The numerous attempts to devise a serologic test for the diagnosis of viral hepatitis have met with frustration. Agglutination tests utilizing erythrocytes of various animal species, bacteria and crude neutralization tests employing convalescent sera to neutralize the effects of acute phase sera on the allantoic fluid of embryonated chicken eggs and in the anterior chamber of the rabbit's eye have enjoyed fleeting reception. These tests have been difficult to reproduce, non-specific and positive in other disease states. The report that the hemagglutination tests

are uniformly negative in cases of hemolytic and obstructive jaundice may be of some possible diagnostic value.

Recently a group of investigators in Arizona reported that they had isolated and propagated a virus from a case of serum hepatitis, coated latex particles with this virus and developed a tube agglutination test which indicates "specific" antibody. However, their data indicate that the reaction is positive, not only in infectious hepatitis, serum hepatitis, and infected donor plasma, but also in sera of anyone who has had hepatitis and in 100% of patients with infectious mononucleosis. Therefore, although the test may be of value in blood banking (if used it would reject a large portion of the donors) it would be of little value in the diagnosis of active disease. Moreover, since the test is positive in infectious mononucleosis it seems that this procedure also measures an antibody of limited specificity.

Thus as in the past, the diagnosis rests upon epidemiologic evaluation and physical findings, along with evaluation of the patterns of the non-specific laboratory examinations and the exclusion of other possible etiologies for the clinical and laboratory findings.

Careful historical evaluation of the patient with suspected viral hepatitis will frequently reveal parenteral exposure to possibly contaminated blood or blood products (at present the only blood product known to be virus-free is the albumin fraction which can be heat sterilized) or possible oral exposure to contaminated food or water sources in areas where hepatitis is heavily endemic or epidemic.

Since the clinical course of the viral hepatitis is so variable, the clinical laboratory findings are inconstant. A summary of some of the more commonly measured parameters in the three phases of the classical form of the disease is presented in Table I which follows:

TABLE I

	Pre-icteric	Icteric	Convalescent
Serum enzymes			
SGOT	60-400 units	>400 units	<60 units
SGPT	60-400 units	>400 units	<60 units
ICD (normal 90-290 units)	>500 units	>2000 units usually	
BSP Retention	10-30%	—	<10%
Flocculation Tests			
CCF	0-4+	0-4+	0-2+
thymol turbidity	1-4 units	5-20 units	1-8 units
Urine urobilinogen	elevated	down then elevated	normal
Urine bilirubin	+	++++	neg.
Serum bilirubin	<2.0 mg.%	2.0-25 mg.%	<1.5 mg.%
Alkaline phosphatase	2-+ Bod. U.	4-15 B.U.	—
Serum Cholesterol			
Total	normal	normal to low	normal to elevated
Esters	normal	low	normal

The pre-icteric phase of the disease lasts 7-10 days during which there is fever, malaise, liver tenderness and nausea. The onset of the *SH* type of infection is much more insidious than that of the *IH* disease. During this stage, the serum enzyme levels are the first to show changes. The serum Glutamic Oxaloacetic Transaminase (SGOT), Glutamic Pyruvic Transaminase (SGPT) and Isocitric Dehydrogenase (ICD) are the most helpful assays and one or more of these are usually available. Any of them, serially, determined will suffice for following the course of hepatocellular damage. The BSP test usually reveals increased retention and occasionally the Cephalin-cholesterol Flocculation (CCF) test will be positive. Apparently, the CCF becomes positive before the other tests because of qualitative changes in the (serum proteins) albumin and possibly alpha 1 globulin. The latter do not affect the other tests that depend upon the A/G ratio. In the convalescent phase the CCF usually becomes negative long before the thymol turbidity returns to normal. The urine urobilinogen presents a biphasic pattern. Early in the disease it is elevated due to the hepatocellular damage. As biliary obstruction and increasing icterus ensue, urobilinogen falls only to rise again as obstruction lessens and jaundice wanes. A finding long recognized is that the urine will contain bilirubin before the onset of clinical icterus. This is in part due to the fact that only the glucuronide conjugates of bilirubin are

passed by the kidney. In most situations the biochemical assay will reveal an elevated conjugated bilirubin fraction even though the total bilirubin is not significantly elevated. It is stated that, in hepatitis, bilirubinuria occurs in the absence of elevated serum bilirubin glucuronides due to a lowering of the renal threshold for bilirubin. Conversely, during the stage of decreasing icterus the urine bilirubin becomes negative in advance of the return of the serum bilirubin to normal levels.

During the icteric phase which usually lasts from 2-6 weeks, the enzyme levels peak before the jaundice reaches its apex. The flocculation tests fail to become positive in 10-15% of the cases. In those which react, the thymol becomes elevated, and remains so, as there is a moderate fall in albumin and rise in gamma globulin. The alkaline phosphatase levels tend to parallel the serum bilirubin but not invariably so. The cholesterol levels depend upon the balance between biliary obstruction and parenchymal damage. Most frequently the total cholesterol is normal while the esters are reduced from 70 to 60-40%. Progressive reduction of the total or ester concentrations is a bad prognostic sign. The BSP is of no value during the icteric stage since the elevation is due to both parenchymal damage and obstruction.

During the convalescent phase the liver function tests return toward normal limits. When the BSP is below 10% retention, the

serum bilirubin less than 1.5 mg.%, SGOT less than 60 units, the liver no longer tender and the patient no longer symptomatic, gradual resumption of normal activity is indicated. Symptomatic and biochemical follow-up is necessary and bed rest should be reinstituted if there is evidence of recrudescence of the disease.

It must be remembered that the findings discussed apply only to the classical form of the disease. There are several variants of viral hepatitis that may cause confusion. Since space does not permit a discussion of these, the reader is referred to the review articles listed in the bibliography.

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USP and "Generic Equivalence"

There are many facts about the so-called "generic equivalent" drugs which have an important bearing on the effect of the drug on the patient and the physician's security in prescribing them. There is adequate evidence that generic name drugs are not necessarily equivalent to each other. The label "USP" means that the manufacturer is claiming to meet minimum standards. It does not necessarily mean that he has been proven to have obtained those standards. Not all drugs are subjected to the same quality control procedures. Not all drug manufacturing techniques and equipment are so well standardized that the products are of uniform quality. The tendency of a manufacturer of a generic drug is to meet minimal and not optimal standards.—Editorial in *Journal of the Louisiana State Medical Society* (117:5), May 1965.

R. WAYNE KERNODLE

Leaves without Medical Permission from Eastern State Hospital in Williamsburg, Virginia

Under a small grants award from the National Institute of Mental Health a study was made of non medical leaves from Eastern State Hospital in Williamsburg, during the year July 1, 1963—June 30, 1964.¹ The study included the overall frequencies of "escapes" according to such demographic variables as: age, sex, marital status, religion, education, occupation, residence at time of hospitalization, birthplace, military status, type of commitment, diagnostic category, buildings patient resided in and was returned to at last escape, number of previous admissions, total escapes per patient during his current admission, time lapse between current admission and first escape, total time out of hospital on escape during the study year, day of week and month of escape, and form of separation. These data were compared with similar demographic characteristics of the total patient population of the hospital as of June 30, 1964, when such overall data were available.

Interviews were held with the 160 patients returned from non medical leave during the period to ascertain their professed reasons for escape, their methods of doing so, their intended and achieved destinations, an account of their activities while on escape, ward placement and patients' reactions to treatment following apprehension and return to the hospital.²

The major hypothesis substantiated by the study was that non medical leaves from a mental hospital represent *efforts toward health* and attempts at re-integration into society by patients rather than escapes from

intolerable or undesirable conditions within the hospital. The results also lend support to the open door policy and suggest plausible means of improvement in the retention of patients by other than physical security or externally applied measures.

The year end population of the hospital on June 30, 1964, was 2,422 white patients, of which 1,047 were male and 1,375 were female. A staff of 827 persons, including 21 physicians, 27 nurses, 470 attendants, and 307 employees of other categories attend the patients and their needs.

During the study year mentioned above 221 different patients were placed on official escape and accounted for 334 total departures. These same patients cumulated 400 instances of escape during the time of their respective current admissions.

The age-sex characteristics of the NML (non medical leave) population show significantly high departures for persons of both sexes in the productive age categories of 20-44 years of age. There were 169 males and 52 females placed on official escape during the year, or 76.5 percent and 25.5 percent of the total respectively; whereas females constituted 56.8 percent and males 43.2 percent of the total patient population. The major factors contributing to this pattern were the physical ability to manage escape and desires to prove their ability to carry out responsible family and work roles, even though medical evidence was persuasive to the contrary.

The divorced and separated contributed overproportions and the widowed and married underproportions to the NML population, with the first two categories constituting 13.6 percent of all patients and 32.1 percent of non medical leaves. Females exceeded males in this respect.

Most of the patients at Eastern State are Protestant and thus most of those who escaped were also. However, divorced and

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Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals.

separated Catholic females had relatively higher escape incidence than others by religious category.

In general, the lower the education, occupation and social class, the higher the incidence of non medical leave. Case record and interview material suggests that these patients communicate more easily with the medical staff, understand the nature of the hospital system better, have easier access to the staff for treatment, attention, and permission to go on furloughs, etc., thus reducing the necessity to escape. These patients also had better background from which to gain insight into their problems and to perceive the necessity of treatment. One variation on this pattern were salesmen with diagnoses of alcoholism or drug addiction. Out of 27 males listed in sales occupation during the year, 13 escaped at least once during the period.

The data on birthplace of NML patients show that migration is a selective factor both in mental illness generally and an added factor in non medical leaves, particularly for persons having their origins in states adjacent to the Commonwealth. Most escapees of course, like all patients, were residents of Virginia at the time of their departure, although a few were transients hospitalized on temporary status.

The diagnostic categories which contributed more than statistically expected to the NML population were: personality disorders, transitional situational personality disorders, and psychoneurotic disorders. A very high percentage of both males and females in these categories carried a secondary diagnosis of alcoholic addiction. Others were in the children's unit and their NML behavior represents a continuation of truancy, acting out, or rebellion against authority characteristic of adolescents in general. Many children left because of homesickness during holiday seasons, birthdays, and following visits from relatives.

Persons diagnosed as psychotic disorders comprised 31.7 percent of all escapes and 52.8 percent of all patients in the hospital. Case records and interviews indicate that

those in this diagnostic category who did escape had better therapeutic prognosis than those who did not. Many such patients stated that they left in effort to demonstrate to the staff, relatives, former employers, and to themselves that they were again capable of functioning adequately in pre-hospitalization roles. Of course all were not able to do so but many were eminently successful in reaching their intended destinations and attaining gainful employment while on non medical leave.

There were 1306 beds on open wards and 1228 on "closed" or semi-closed wards or 51.5 percent and 48.5 percent respectively, at the hospital as of June 30, 1964. Of the NML (escape) population, 63.8 percent resided on closed wards and 36.2 percent on open wards at time of departure. Patients are thus more likely to escape from locked wards than from open wards at Eastern State Hospital.

Those who have been hospitalized previously, whether at Eastern State or elsewhere, had a tendency to escape more often. Data were not available to test the comparative rates for patients with previous admissions at Eastern State, only with those formerly hospitalized elsewhere.

Of the 221 patients who took NML during their current admissions, 125 or 57.0 percent left only once; 19.9 percent twice; and 13.6 percent three times. Two patients "escaped" 10 or more times, one of whom left 17 times in the thirteen years of residence. The first was an alcoholic fisherman who could not survive on psychotherapy and water and the other a Jewish patient who sought friendship, attention, and social life at the Jewish Community Center in a nearby city.

Just over 50 percent of the NML population were in the hospital for three months or less prior to their first escape episode, with a noticeable and steady decline thereafter until the patient had been hospitalized between one and two years. These data suggest that much NML behavior is related to status shock. That is they had not been properly prepared for the shift from home to hospital

environment. All too frequently they had been deposited at the hospital after agreeing to accompany relatives "on a ride," "to the courthouse to sign a will," "To visit relatives," etc. Finding themselves in an unknown situation, full of strange faces, and denied their freedom, they took the first opportunity to leave and go home to straighten things out.

Two-thirds of the patients were away from the hospital less than one month and over 50 percent for only one day. However, fifty patients were gone for periods of 3-12 months and six were discharged while alive on escape a year following their departure.

Thursday, Friday and Saturday were days of highest NML frequency and Wednesday and Sunday were lowest. Availability of relatives at home from work, stimulation of increased furloughs, trial visits and discharges on weekends for other patients resulting in feelings of relative deprivation, easier access to rides with increased traffic, reduction in social and therapeutic attention, and the traditional feelings of loneliness on weekends, contributed to this pattern.

The frequency of "escapes" also followed a seasonal weather pattern with July having the most departures and February the fewest. Travel is easier in summer, food from farms and gardens along the way more plentiful, and it is easier to get "lost in the flood of summer hitchhikers" and to get jobs as casual workers picking crops, etc.

Out of the 221 individuals in the NML population only 70 or 31.7 percent were actually still in the hospital at year's end. Twenty-three had been discharged from escape, 41 were still on escape, and 45 had been placed on trial visit. Thus, 68.3 percent of the NML population had managed to maintain or obtain some form of separation from the hospital during the year. This contrasts with the rate of 32.4 percent of the total patient population based on the 5,203 persons under treatment for the same period. Non medical leave, viewed this way, may be a form of positive therapy and certainly supports the hypothesis that their behavior is an effort toward health, or a flight toward societal involvement.

Three patients died while on non medical leave—two from natural causes and one by suicide in jail after apprehension by police in her own community. This patient had previously been recommended for transfer to another type of institution more appropriate for the treatment of her problems.

The major reasons given by patients for their leave without medical permission revolved about concerns over family relationships and responsibilities. Such matters were listed as the major motivating factor by 100 of the patients. Men gave reasons ordinarily associated with male status obligations such as work, decision making in the home, discipline and protection of family members. Women were pulled by roles connected with feeding and care of family members, although some were concerned about continuing their careers on the outside.

There were departures stimulated by family interference and others by a failure of patients or families to understand the routine procedures necessary before leaving or taking a patient from the hospital.

Changes in staff assignments resulted in delays of some promised furloughs, trial visits, town passes and ward transfers for patients expecting to receive them and they took matters into their own hands.

Staff members inadvertently contributed to escapes through acts of intended kindness by telling patients such things as "you might be discharged any day now," "you look well enough to be at home," "I don't know why they keep you here, you're not half as sick as most of the doctors," etc.

Many patients, without consciously realizing it, left to gain the attention of staff members, relatives or other patients. They broadcast their intentions for several days, use most obvious means of departure, identify themselves as mental patients to cab and bus drivers, ticket sellers and kindhearted motorists. If all else fails they call the hospital switchboard to report where they are or call the police to come and get them. For several hours during the search and readmission procedures they are the

center of attention. Then they have something new to talk about on the ward.

Others run from "panic," and some because they feel they deserve a vacation from the monotony of the hospital. A few succumb to the need for immediate gratification of somatic and visceral itches, sometimes called "wine, women and song."

Feelings of a "one last desperate effort to get out on my own and make it before it's too late" motivated some escapes. These patients felt that if they stayed any longer they would just give up all hope and stay in the hospital forever.

While the incidence of escape was proportionately higher among patients residing in closed wards, many of these effected departure while going to and from meals at the main cafeteria or from occupational and recreational therapy situations. However, 25 broke out of locked wards using home fashioned pick keys or other such instruments to force window locks. Another 23 said they had been assisted by visiting relatives, friends, or former patients and eleven stated their escapes were aided by a staff member as repayment for favors, because they were angry at a doctor or head nurse, or because they felt the patient was either being mistreated or not getting proper attention. The largest number simply walked off the grounds from open wards, ground privileges, or town passes.

Hitchhiking and riding the Greyhound bus provided the means by which 143 of the patients left Williamsburg. Twenty-three hiked through the woods and along the highways. Several left in cars furnished by relatives, friends, and former patients, while a few caught rides from the hospital grounds with drivers of delivery trucks and salesmen who were convinced by patients that they were employed at the hospital or trying to return home to Newport News, Norfolk, or Richmond after visiting relatives at the hospital. One patient bragged about being given a ride by his ward physician who had denied him a trial visit earlier in the week. Six patients, all from the children's unit, stole cars in a nearby shopping

center which they abandoned within a few miles of Williamsburg.

Most male patients who escaped did so alone, not wanting to be delayed by others or to involve anybody else. Besides it was often done on the spur of the moment when the opportunity arose or when the motivation to do so was set off.

Women, however, sought the company of a male escort if possible, but another woman if necessary. Female escapees felt that less suspicion would be aroused this way and also that it would be good to have a man to take care of necessary details.

Out of the 221 NML patients, 173 reported that they were successful in reaching their intended destinations. In the majority of cases this meant their own home or that of relatives and friends in the area served by Eastern State Hospital. Quite a number however, did cross state boundaries and travelled as far as Florida, New Mexico, California, New York, Boston and Canada. Most returned after varying amounts of time on their own, but a few were institutionalized elsewhere until arrangements could be made for their return to Virginia.

Space limitations here do not permit a full reporting of the varied activities engaged in by patients while on non medical leave. As a whole their behavior was similar to that expected of a general sample of the population of their socio-economic class except that 86 spent some time in jail after being apprehended on an escape warrant. Only 26 of these were arrested for violations exclusive of escape.

Approximately one hundred patients reported that their major activities while on escape centred around taking care of family related needs. They planted and harvested crops, paid bills, arranged for medical treatment of spouses and children, visited private physicians and lawyers, moved to new rental quarters, worked at odd jobs, cooked, sewed, cleaned house, and baby-sat for relatives.

Some patients just bummed around the country, went on drinking and sex orgies, and a few became entangled in a series of bizarre episodes which ran them afoul of the

law. Three patients, two of whom already had spouses, crossed state lines and got married. All were annulled.

Twenty-eight patients on non medical leave were gainfully employed while on escape—some working almost a year before returning to the hospital.

When patients were returned to the hospital from escape, they were nearly always sent to a locked ward and very frequently to a maximum security building. This was done without careful investigation of the patient's motives, his condition at time of escape, his deportment while on escape, and without a review of the patient by his own ward physician. The study data on this clearly demonstrate a pattern of punishment, deliberate or otherwise and flies in the face of the formal policy of the hospital as a treatment rather than a punishment milieu.

The most frequent reactions of patients to their return and treatment following escape were: hostility, objections to placement on locked wards with highly disturbed patients, and feelings that they were being punished like bad children rather than treated as patients. Many expressed the feeling that they should have been given the privilege of seeing their own doctor before being sent to a locked ward. Some patients thought it was absurd for the hospital to spend the time and money to apprehend and return them when they had been making a living and getting along well with their families for several weeks or months. Obviously the hospital administration is often in such a practical dilemma since it is required to carry out the formal state law on escaped patients, even if it intends to dis-

charge or furlough the patient immediately upon return. It is, of course, not an easily solved problem. Only seven patients regretted having taken non medical leave, but 12 persons had decided they were better off in the hospital than elsewhere. Six were very pleased with the treatment they received upon return. All of these were patients whose ward physician made a special effort on his own to contact returned escapees from his ward and discuss with them their reasons for departure and recommend ward placement on these individual assessments.

In general, the study supports the hypothesis that non medical departure from the mental hospital is an effort by the patient to help restore himself to the social world outside and to fulfill the role obligations by which he can define himself as a whole and well human being. While he is not always able to carry out his hopes successfully, his effort to do so is at least an indication that he has not yet given up and defined himself permanently as hospital patient.

1. The author is grateful to the following persons for their special assistance and cooperation: Dr. Hiram Davis, Commissioner of Mental Hygiene and Hospitals; Dr. Howard Ashbury, Superintendent, Eastern State Hospital, Williamsburg; Dr. Kurt Schmidt, Assistant to Superintendent, Eastern State Hospital, Williamsburg; Mrs. Lawrence Caldwell, Medical Records Officer, Eastern State Hospital, Williamsburg; Miss Edna Lantz, Chief Statistician, Department of Mental Hygiene and Hospitals.
2. A complete presentation of statistical and interview data are contained in the report filed at the offices of the National Institute of Mental Health, Bethesda, Maryland, under Grant No. MH 08751-O, RO 3 MSM.

The Medical Society of Virginia . . .

Public Relations Institute

The 1965 Public Relations Program held in Chicago, August 19-20, had a golfing motif.

The opening "shot" was from a real "pro" at the game, our own Dr. F. J. L. Blasingame, AMA Executive Vice President, whose "kick off shot" was from "tee to green". He reminded us that we were playing a tough "course" with cross winds and traps all along the way and emphasized that the outcome of the game will depend upon our previous practice, equipment, keeping your eye on the "ball" and always following through with each stroke. Let us remember that the passage of Medicare was by the smallest margin on any test vote of this Administration's "must" legislation. He felt that Congress erred in passing a bad bill into law and, whereas, President Johnson won, only the future and the conduct of the medical profession will determine whether or not the public has lost.

"SOMETHING TO THINK ABOUT"

The good Lord gave us two ends,
Connected by a link,
One of them we sit on,
With the other we think,
We now have a problem,
It's up to us to choose.
Heads we win,
Tails we lose.

There will soon be a meeting of the Advisory Committee composed of President James Z. Appel, Chairman; President-Elect Charles L. Hudson; Secretary-Treasurer Raymond M. McKeown; Trustee Dwight L. Wilbur; Chairman of the Council on Medical Service, Russell B. Roth; and Speaker of the House, Milford O. Rouse, which held an organizational meeting August 13 and will soon meet with 18 specialty organizations including the American Academy of General Practice. It will be interesting to see the outcome of this meeting.

President Johnson and H.E.W. has already asked AMA to participate in formulation of regulations and AMA has been assured that

no regulations will be finalized without full AMA opportunity to evaluate and recommend changes.

Dr. Blasingame concluded his remarks by stating that non-participation at this time before the law has even been implemented would achieve only thunderous disapproval of the public, the Press, and the Congress, and could result in grievous new legislation. Much depends upon how we play the game and equally much depends on the individual player but with hard honest sincere work and careful thinking, we will come out with a good "score". This may be a Dunkirk but not a Waterloo.

An interesting feature of the program was a driving test with audience participation. All the questions were based upon knowledge that each AMA member should have but out of a possible score of 450, the average was well under 200 so you see, fellow members, we don't know nearly as much about our organization as we should.

At the conclusion of the first day's "playing", the 19th Hole, in the Gold Coast Room, was a delightful period of relaxation that lasted far beyond the scheduled hour.

The Friday morning session dealt with projects by various State Medical Societies which had proved effective in boosting Public Relations and improving the image of the doctor.

The Panel on Student American Medical Association was most interesting as all panels are which our moderated by Leo E. Brown. This Panel consisted of the 1963, 1964, and 1965 Presidents of SAMA. These young men really had a lot on the "ball" and really came through with some helpful suggestions as to how we, the oldsters at the game, could improve our "strokes".

The morning session concluded with a review of the hazards of our future course, a most informative report on the actual medical care costs in the present day compared with that of 20 years ago. The resulting figures were amazing when you consider

the actual cost of medical care compared with the increasing earning capacity of the public, the almost 50% decrease in hospital stay, and the actual number of days work lost from illnesses now compared to 1940.

The meeting was concluded in the Gold Coast Room by a luncheon with Mr. Samuel Lubell, the speaker.

I want to again stress the importance of greater attendance by the officers of the state and local medical societies at these Institutes.

It is impossible to adequately cover or emphasize all of the important features of such a meeting. It is only by actual attendance at these meetings that our local and state members can be informed of the enormous work which goes into these meetings and the benefits which can be received by proper attendance.

JOHN WYATT DAVIS, JR., M.D., *Chairman
Public Relations Committee*

"Hot Line" for Drug Reactions

No responsible person can quarrel with the vast communications network set up throughout the world to exchange information on the side effects of drugs. But this necessarily imposes the obligation on observers to be reasonably certain there is a fire before pulling this world-wide alarm system. A drug's side effects should be measured against the good it does, else the benefits of therapeutic advances are nullified. Let us remember that illness itself creates adverse manifestations, sometimes unexpected and bizarre. To assume that all of the patient's complaints and distress are due to an administered drug can be the worst kind of *post hoc, ergo propter hoc* reasoning, serving only to damage the good name of a drug and perhaps cause its withdrawal.—Theodore G. Klumpp, M.D., in *Massachusetts Physician* (23:208), June-July, 1965.

The British Physician - A Sign of Things to Come

"There are men and classes of men that stand above the common herd: the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarelier still the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization."

—Robert Louis Stevenson
1850-1894

WHEN STEVENSON wrote these lines the nineteenth century still had fourteen years to run and Britain's National Health Service was sixty years in the future. The comparison between the clergyman and the physician, so unflattering to the former, was, no doubt, largely due to the minister's status as a civil servant, while the physician was still a free soul, unfettered by government regulation.

If Stevenson were to return to England today it is unlikely that he would again place the physician in the exalted position he felt he deserved during the Victorian Era. Seventeen years of state medicine have reduced the medical practitioner, in the eyes of the public, to that of a minor bureaucrat, no doubt inferior to the clergyman. A recent visit of the writer to England gave an opportunity to compare the status of physicians in Great Britain and the United States.

The American physician may not always realize it, but whether he deserves it or not, he has traditionally enjoyed a preferential status in the community. This, sad to relate, from causes not germane to the subject under discussion has been true in the past to a greater extent than it is at present but it is still true to a degree. The American physician usually receives the benefit of such doubts as may exist and it generally requires positive wrongdoing on his part to dispel the mild aura of respectability with which a kind and indulgent public has clothed him. Many of us can recall the time when even the traffic policeman dealt a little lighter with the driver who had a medical symbol attached to his license plate. This happy state of partial immunity from motoring lapses

no longer exists but the American public still treats us better, perhaps, than we deserve.

In England the laymen do not appear to be under the same illusion regarding their physician. It is true they crowd his offices and distract him from the ill patients upon whom he should be concentrating his attention. They do this, of course, because his services are "free" and they doubtless feel they owe it to their government to monopolize his time. He is the man they go to see about a "prescription" for their arthritis and bronchitis but the transaction does not appear to generate any more warmth than the purchase of a postage stamp from the clerk behind the window in the post office. All in all the practice of medicine today in the United Kingdom is a dull and drab business.

British physicians are fully aware of the change that has come about and they do not relish their new role or the type of medicine they are forced to practice. British medical schools no longer attract the superior type of student who entered prior to the beginning of the National Health Service. About one-fourth of the medical graduates leave the British Isles for other English speaking countries where socialized medicine does not exist. It is difficult for us with our roving population to realize the depth of feeling that must be necessary to prompt the proud and home-conscious Englishman to leave his country but these departures are taking place daily under the present medical regime.

Now our ultra-liberal administration under the guise of doing something for the elderly, and regrettably with the aid of misguided fifth columnists within our own ranks, has seen fit to follow Great Britain down the one-way path of socialized medicine. The camel has finally gotten his nose beneath the tent and the rest of the beast will surely follow. We shall soon find ourselves where British physicians now are. There is every reason to expect American medicine for the rank and file of our people to regress just as it has in England.

It may be just as well for us to have this example of what happens when a welfare state takes over the medical profession. We at least will have a better idea as to when and where the first blow will fall. Perhaps too it will enable us to accept with better grace our new role of low man on the totem pole in President Johnson's Great Society.

H. J. W.

Calendar of Events

WEEKLY CONFERENCES FOR PRACTITIONERS—Fall Series—October 7-December 2, 1965 (excluding Thursday, Nov. 25) Thursday afternoon 2-4 P.M., Barringer III Conference Room—University of Virginia Medical School

THE MEDICAL SOCIETY OF VIRGINIA ANNUAL MEETING, Hotel John Marshall, Richmond, Virginia, October 10-13.

AMERICAN HEART ASSOCIATION, Miami Beach, Florida, October 15-19.

AMERICAN PUBLIC HEALTH ASSOCIATION, Chicago, Illinois, October 18-22.

AMERICAN COLLEGE OF SURGEONS—Annual Clinical Congress, Atlantic City, New Jersey, October 18-22.

AMERICAN CANCER SOCIETY, VIRGINIA DIVISION, Hotel Roanoke, Roanoke, Virginia, October 21-22.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS 1965 DISTRICT MEETING, Golden Triangle, Norfolk, October 21-23.

STATE-LOCAL HOSPITALIZATION REGIONAL CONFERENCE (SLH), Hotel Roanoke, Roanoke, Virginia, October 28.

THIRD ANNUAL KIDNEY SYMPOSIUM, Medical Education Building, Medical College of Virginia, Richmond, Virginia, October 29.

STATE-LOCAL HOSPITALIZATION REGIONAL CONFERENCE, Convention Center, Williamsburg, Virginia, November 5.

WESTERN HEMISPHERE NUTRITION CONGRESS, Edgewater Beach Hotel, Chicago, Illinois, November 8-11.

MEDICO-LEGAL WORKSHOP—Lynchburg General Hospital—November 18. Sponsored jointly by VAGP, Chief Medical Examiner and the Medical College of Virginia.

VIRGINIA HOSPITAL ASSOCIATION, Marriott Twin Bridges, Arlington, Virginia, November 18-19.

DIAGNOSTIC PROCEDURES IN RESPIRATORY DISEASE—November 19-20—University of Virginia School of Medicine, Charlottesville, Virginia.
(Joint Sponsor—Virginia TB and Respiratory Association)

AMA NATIONAL SYMPOSIUM ON VENEREAL DISEASE CONTROL, Drake Hotel, Chicago, November 20.

New Members.

Members received into active membership of The Medical Society of Virginia during the month of August are:

Nicholas G. Colletti, M.D., Dumfries
Luke Wright Frame, M.D., Blacksburg
Mary Lou Hale, M.D., Charlottesville
Thomas Richards Johns, M.D.,
Charlottesville
Irene Nakoneczna, M.D., Richmond
Juan Francisco Rios, M.D., Galax

Hugh Van Sickel, M.D., McLean
Coenraad Vuurmans, M.D., Fries
Robert Chapman Wesley, M.D.,
Lynchburg

Dr. Harry J. Warthen,

Editor of the Virginia Medical Monthly, recently addressed the Confederate Historical Society in London, England. He spoke on General Thomas J. "Stonewall" Jackson and his great friend and surgeon, Dr. Hunter McGuire.

This Society is only three and a half years old but numbers more than 200 members. More than half the membership is British but the organization accepts members throughout the world. In addition to Dr. Warthen, Richmond members include Drs. Carrington Williams and T. Neill Barnett.

Southwestern Virginia Medical Society,

At the annual meeting of this Society, held in Pulaski, August 26th, Dr. W. W. Walton, Pulaski, succeeded Dr. Garrett Dalton, Radford, to the presidency. Dr. Joseph H. Early, Jr., Hillsville, was elected vice-president and Dr. Carl Stark, Wytheville, secretary-treasurer.

Dr. William Parson,

Chairman of the Department of Internal Medicine at the University of Virginia, has returned to Charlottesville after spending eleven months as visiting professor of medicine at Makerere University College School of Medicine in Kampala, Uganda. The trip was sponsored by the Rockefeller Foundation.

Dr. Frank E. Handy,

Appalachia, has been re-elected chairman of the Wise County School Board.

Dr. L. Perry Hyde,

Pulaski, spent two weeks in August in medical mission work in Honduras. He joined a group of physicians in Houston, Texas, for the chartered flight. Each doctor worked with trained high school seniors and college students in the immunization of the natives and treatment of diseases.

Dr. E. G. Gill,

Roanoke, was recently elected vice-president of the Virginia Seniors Golf Association at their meeting in White Sulphur Springs, West Virginia.

Symposium on Hodgkin's Disease.

A symposium on the Clinical Aspects of Hodgkin's Disease will be held on November 22nd at the New York Hilton Hotel in New York City. This symposium, co-sponsored by the American Cancer Society and the National Cancer Institute, will present the latest clinical and research information on Hodgkin's Disease and will emphasize the clinical management of the disease.

All interested physicians, medical students and investigators are invited to attend. There is no advance registration and no registration fee.

Kidney Symposium.

The third annual Kidney Symposium, sponsored by the Virginia Kidney Foundation in cooperation with the Medical College of Virginia, will be held in the Medical Education Building of the College on October 28th. The theme will be Clinical and Laboratory Studies Concerning Renal Calculi. Clinical Aspects in the Management of Calculus Disease will be presented by Dr. George R. Prout, Jr., Medical College of Virginia; Dye Effects in Urolithiasis by Dr. Bart van't Riet, Medical College of Virginia; Current Problems in Stone Prevention Regimens by Dr. Stanton King, Winston-Salem, North Carolina; Experimental Aspects of Glomerular Disease by Dr. Kurt Lange, New York City; Nephrotic Syndrome—Clinical Aspects by Dr. John Maher, Washington, D. C.; Acute Glomerulonephritis by Dr. Jerome Kassirer, Boston; and Case Presentations and Panel Discussion moderated by Dr. Russell E. Randall, Jr., Medical College of Virginia.

Needed.

Young general practitioner, or internist interested in family practice, to join a group and take over the practice of general practitioner who has left to specialize. Fully

equipped office available in clinic-type building in small town fourteen miles from Richmond. Hospitals in Richmond are but a short drive from office via the new turnpike. The present, remaining groups con-

tains a general practitioner, a pediatrician and an obstetrician.

Please contact Dr. Frank M. Sasser, Jr., or Dr. Richard M. Lee, Ashland, Virginia. (*Adv.*)

Obituaries

Dr. Walter Forest Thornton,

Lynchburg, died August 3rd. He was sixty-nine years of age and a native of Texas. Dr. Thornton graduated from Baylor Medical College, Waco, Texas, in 1927, following which he specialized in tuberculosis. He later trained as an x-ray therapist at Duke University. Dr. Thornton located in Lynchburg in 1937 where he limited his practice to x-ray and radium therapy. He had been a member of The Medical Society of Virginia for twenty-eight years.

His wife, a son and a daughter survive him.

Dr. Mark Morris Exley,

Norfolk, died August 2nd, at the age of sixty-five. He was a native of Wisconsin and graduated from Northwestern University School of Medicine in 1933. During World War II, he was located in Norfolk at the U. S. Public Health Service Hospital

and opened his practice in that city in 1946, where he specialized in the practice of urology. Dr. Exley was a member of the Virginia Beach Masonic Lodge and the Norfolk Executives Club. He had been a member of The Medical Society of Virginia since 1947.

His wife survives him.

Dr. John Williams Powell,

Richmond, died August 27th following a heart attack. He was forty-two years of age and a graduate of the Medical College of Virginia in 1950. Dr. Powell served as an officer in the U. S. Navy during World War II. He had practiced in Richmond since his graduation and was a member of the staff of Stuart Circle Hospital. He had been a member of The Medical Society of Virginia since 1954.

His wife and three daughters survive him.

Current Currents

HEART, CANCER, STROKE: The heart, cancer, stroke controversy continues to monopolize medical legislative headlines. The House Interstate and Foreign Commerce Committee has reported H. R. 3140 with a number of amendments which bring it more in line with the thinking of medicine generally. These numerous changes have made it necessary to virtually rewrite the entire bill.

Included among the amendments are: a reduction of the overall program from four to three years and from \$650 million to \$340 million; deletion of the "coordinated" aspect of the program and substitution of a "cooperative arrangement" concept; the requirement that "demonstrations" of patient care must be incidental to research and training (including continuing education); the further requirement that *any* patient care must be upon referral of a practicing physician; the limitation of "other diseases" to those related to heart, cancer and stroke; deletion of separate diagnostic and treatment stations; further deletion of construction for any new facility; requirement of a local advisory committee which must include, among others, practicing physicians and representatives of appropriate medical societies. Another amendment adopted by the House Committee would establish that the purpose of the bill would be to conduct feasibility studies and pilot projects.

DIABETES DETECTION: The week of November 14-20 has been labeled "Diabetes Week", and once again physicians are asked to cooperate with their local detection drive chairmen. The purpose of the diabetes detection drive, and of diabetes week, is to find as many as possible of those unsuspecting diabetics, and to see that they get proper medical attention. That can be done only by creating widespread public knowledge of diabetes and awareness of its dangers.

AMA FACTS AND FIGURES: AMA is democratically organized. It is a federation of 54 state, commonwealth and territorial medical associations. These, in turn, are composed of more than 1,900 component medical societies. The principle of representative government applies throughout, with authority moving up from the component society through the state and territorial associations, and then to the national body. This is accomplished through the process of elected delegates. Each member of AMA, through his vote in electing state delegates, has a voice in determining AMA leadership and policies.

The House of Delegates of AMA is the national policy-making body of the medical profession. It is composed of 235 members, most of whom are elected from each state and territorial association on the basis of one delegate for each 1,000 active members of AMA, or a portion thereof, in each state or territory. Delegates meet biannually—in June and November—to establish policies and programs.

AMA CLINICAL CONVENTION: A comprehensive scientific program, a new postgraduate course, and special clinical workshops are just some of the features of the American Medical Association's 19th Clinical Convention to be held in Philadelphia from November 28-December 1.

This outstanding scientific program is designed to hold special interest for the practitioner. Some of the topics to be covered are ulcerative colitis, gram-negative bacterial infections, medical-surgical review of cardiovascular surgery, drug therapy in rheumatology, and cancer chemotherapy and preventive surgery.

The practicing physician will be able to participate in a new convention feature. Clinical workshops on diabetes, heart examination, management of common eye problems and solution of selective diagnostic and therapeutic problems will be conducted by outstanding teachers.

Also new will be a postgraduate course in cardiovascular therapeutics. It will be offered in addition to the popular course on gynecology and obstetrics begun at the Clinical Convention last year in Miami.

The annual AMA Conference on the Medical Aspects of Sports will be held the first day of the meeting, November 28, in the Benjamin Franklin Hotel. This will be of special interest to high school and college physicians.

RESTRICTIVE LEGISLATION: Reports out of Washington have it that a prominent Senator plans to introduce a bill which will prevent physicians from selling eyeglasses for profit and also prevent them from operating drug stores. This is one which bears watching.

MEDICAL EDUCATION ANNIVERSARY: The 200th anniversary of medical education in the United States will be observed in Philadelphia when AMA holds its 19th Clinical Convention there November 28-December 1. The convention is being held in cooperation with the bi-centennial observance of the nation's oldest medical school—University of Pennsylvania School of Medicine.

DID YOU KNOW? With 50,000 new cases and over 9,000 deaths last year in the United States due to tuberculosis, this disease remains the chief public health problem among communicable diseases.

The world population doubled between 1850 and 1930, and by 1975 the population is expected to double again to total four billion people.

In 1847—the year AMA was founded—only 29 states had been admitted to the Union. James Polk, our 11th President, was in office and the first U. S. postage stamps had just been printed. Charles Dickens was writing "David Copperfield."

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(Founded by Landon B. Edwards, M. D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

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Annual Subscription—\$2.00

Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL

Licensure of Graduates of Foreign Medical Schools—
Russell M. Cox, M.D...... 513

ORIGINAL ARTICLES

A Simplified Technique of Ileocolostomy—*Richard C. Shrum, M.D., Gaylord S. Williams, M.D., M. Shannon Allen, Jr., M.D., and Donald J. Kenneweg, M.D.*..... 515

Eye Problems in the Elderly—*M K. Humphries, Jr., M.D.*..... 520

Limitations of the Oral Cholecystogram—*H. F. Conquest, M.D., and Henry S. Spencer, M.D.*..... 527

Joint Treatment of Marital Problems—
Morgan E. Scott, M.D...... 536

Medical Practice in Cuba Before and After Castro and by Cuban Physicians in Exile—
Felipe Garcia Canizares, M.D...... 540

CLINICOPATHOLOGICAL CONFERENCE

Bloody Diarrhea in a Young Woman—
Medical College of Virginia..... 544

MENTAL HEALTH

Sarcoidosis—A Case Report—*I. Knopoff, M.D.*..... 552

PUBLIC HEALTH

Medicare (Lesser Known Provisions of the Bill)..... 555

DIAGNOSTIC LABORATORY MEDICINE

Transfusion Therapy in Hemorrhagic Disorders—
W. N. Pearce, Jr., M.D...... 558

EDITORIAL

Two to a Bed—*Harry J. Warthen, M.D.*..... 560

NEWS 561

OBITUARIES 563

The MONTHLY is not responsible for the opinions and statements of its contributors
All advertisements are accepted subject to the approval of the Editorial Board.

Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 52

Guest Editorial . . .

Licensure of Graduates of Foreign Medical Schools

IN THE LAST SEVERAL YEARS we have experienced a rapid increase in the number of graduates of foreign medical schools applying for examination in the State of Virginia. This has led to many inquiries from doctors all over the State regarding the licensure of these foreign doctors. It seems pertinent, therefore, to set forth the salient facts regarding the licensure of these doctors in Virginia.

I am certain that those who do not know will be interested in knowing what a graduate of a foreign medical school must do in order to qualify to be licensed in the State of Virginia. First of all, the Code of the Medical Practices Act in Virginia does not permit the licensure of any graduate of a foreign medical school by endorsement of his licensure from any other state or from the National Board of Medical Examiners. This does not apply to Canadian graduates who have the same standing in Virginia as graduates of our own American schools except in the matter of citizenship.

It is clear, therefore, that in order for a foreign graduate to be licensed in Virginia he must take and pass our examination for licensure. The only exception to this is that if he has passed a basic science examination in another state he may use a certified copy of grades on same in his request to have Part I of the Virginia examination waived. In order to qualify for our examination he must have taken and passed an examination given by a Committee of the American Medical Association known as the Educational Council of the American Medical Association—the examination known as the ECFMG examination. This is a screening test which covers the background and educational qualities of the applicant, his knowledge of the English language and, to a limited degree, his knowledge of medicine. These examinations have been in operation for seven years. They are given twice yearly in the United States to those foreign graduates already admitted to this country and in the foreign countries. In the seven years 87,148 have taken these tests and 32,780 passed the tests and earned the standard certificate issued by the Council.

Having attained the certification from the Educational Council the candidate must have two years of accredited hospital training in the United States or Canada in order to qualify for the examinations given in our State. He must also be in this country on a regular immigration

visa, having signed a declaration of intention of becoming an American citizen. He cannot take our examination if he is in this country on a student or exchange visa.

In the five year period—1960-1964—we have had a steadily increasing number of foreign graduates qualify for our examination. Naturally, they find Part I, the basic science part of our examination, the part that is hardest to make a minimum grade of 70 on each subject and a passing average of 75. In the ten examinations given in this five year period a total of 1,680 candidates have qualified. Of this number 719 or 42½% have failed Part I of our examinations. This means that the failures were not qualified to take Part II of our examination for licensure. In the five year period 1,084 foreign doctors were able to take Part II of our examination. Any seeming discrepancy in this figure is brought about by the fact that a small number of foreign graduates succeed in having Part I of our examination waived by endorsement from another state. One hundred and thirty five of the foreign doctors failed Part II of our examination, which gives us a failure percentage of 12.4 for the Part II examination. It is immediately apparent that these doctors are much better qualified in the clinical subjects than they are in the basic science subjects. It also means that if more than 40% fail Part I and that if 12% of the remainder fail Part II we end up in the licensing of less than 50% of the foreign candidates who take our examinations.

Actually, in the five year period we have licensed 949 graduates of foreign medical schools. Of this number only 196 are practicing medicine in the State of Virginia. This brings the total number of foreign graduates presently practicing medicine in the State of Virginia to 435. We can only hope that these doctors are an asset to the practice of medicine in Virginia. We know that they are physicians who could not be licensed unless they were well qualified. They certainly should be capable in caring for the sick people. Those who are in practice in my area of the State have been well accepted and have certainly learned to conform to the standards of ethical practice and ethical thinking of the doctors with whom they associate. Naturally, the background of the foreign medical graduate is quite different. The society from which he has come is one whose mores may be quite different from ours. For these we feel that we can and that we should help to create and build up ethical standards of thinking and action which should make them entirely acceptable to the physicians with whom they work.

RUSSELL M. COX, M.D., *Secretary*
Virginia Board of Medical Examiners

509 Professional Building
Portsmouth, Virginia

A Simplified Technique of Ileocolostomy

RICHARD C. SHRUM, M.D.
GAYLORD S. WILLIAMS, M.D.
M. SHANNON ALLEN, JR., M.D.
DONALD J. KENNEWEG, M.D.
Charlottesville, Virginia

The technique, experimental and clinical results of a simple method of ileo-colic anastomosis are given.

SONNENBERG IN BERLIN in the latter part of the 19th century and Maylard in Glasgow in the early part of the 20th century independently developed a method of bowel anastomosis by which the end of the proximal gut is telescoped into the side of the distal gut. They used this procedure primarily to perform ileocolostomy, and Maylard thought that this type of anastomosis might provide a valve-like action at the anastomotic site similar to the action of the ileocecal valve. In 1953, William James Moore and John Forrest-Hamilton, two associates of Maylard, published an article describing this procedure in the British Medical Journal, which they referred to as the Maylard-Sonnenberg Technique, and Hamilton Bailey referred to this article and to the Maylard-Sonnenberg Technique in his voluminous book on Emergency Surgery.

Following the employment of the Maylard-Sonnenberg Technique to perform a by-pass procedure on an 84-year-old woman with an obstructing, non-resectable lesion at the hepatic flexure, in June 1961, the senior author modified the end-to-side technique to an end-to-end procedure (as de-

scribed below) for use primarily in re-establishing intestinal continuity following right colon resections.

Technique

A purse-string suture is placed at the antimesenteric border, just proximal to a clamp on the terminal ileum, pulled taut as the clamp is removed and held snug by placing a clamp across both strands flush with the ileum. Both ends of the suture are threaded with a needle into the open end of the colon and out through the antimesenteric border 0.75 to 1.50 cm. distal to the cut end. Traction is made on the purse-string, and the ileum with attached mesentery is guided into the colon, simultaneously removing the clamp on the purse-string. A clamp is reapplied to the suture at the point where it emerges from the colon to secure the ileum with the colon. Six to 10 interrupted serosal sutures are placed between the ileum and colon. The purse-string is removed by cutting one strand and pulling on the other, and the opening in the mesentery is closed (Fig. 1, A to F).

Method

Notwithstanding the fact that Maylard, Sonnenberg, Moore and Forrest-Hamilton had reported excellent clinical results from their procedure and that the one case cited above was quite satisfactory, the precise fate of the telescoped segment of ileum in the original end-to-side procedure and in the proposed end-to-end procedure remained unknown. To investigate this and to make further observations, 40 operations were done on 24 dogs. The first operation on each animal was an excision of the natural

From the Department of Surgery, University of Virginia Medical Center, Charlottesville.

Supported by Public Health Service Research Grant AM 07285 from the National Institutes of Health, Bethesda, Maryland.

ileo-colic junction followed by re-establishment of intestinal continuity using the end-to-end telescoping anastomosis. The second operation was an excision of the anastomosed ileo-colic junction for gross and for microscopic examination followed by re-establishment of bowel continuity again

roentgenologic examination of 20 of the animals showed a valve-like action similar to the action of the ileocecal valve in two. Gross examination of the resected specimens showed that the telescoped segment shrank to less than its original length. Figure 2 is a lateral view of a specimen removed 56

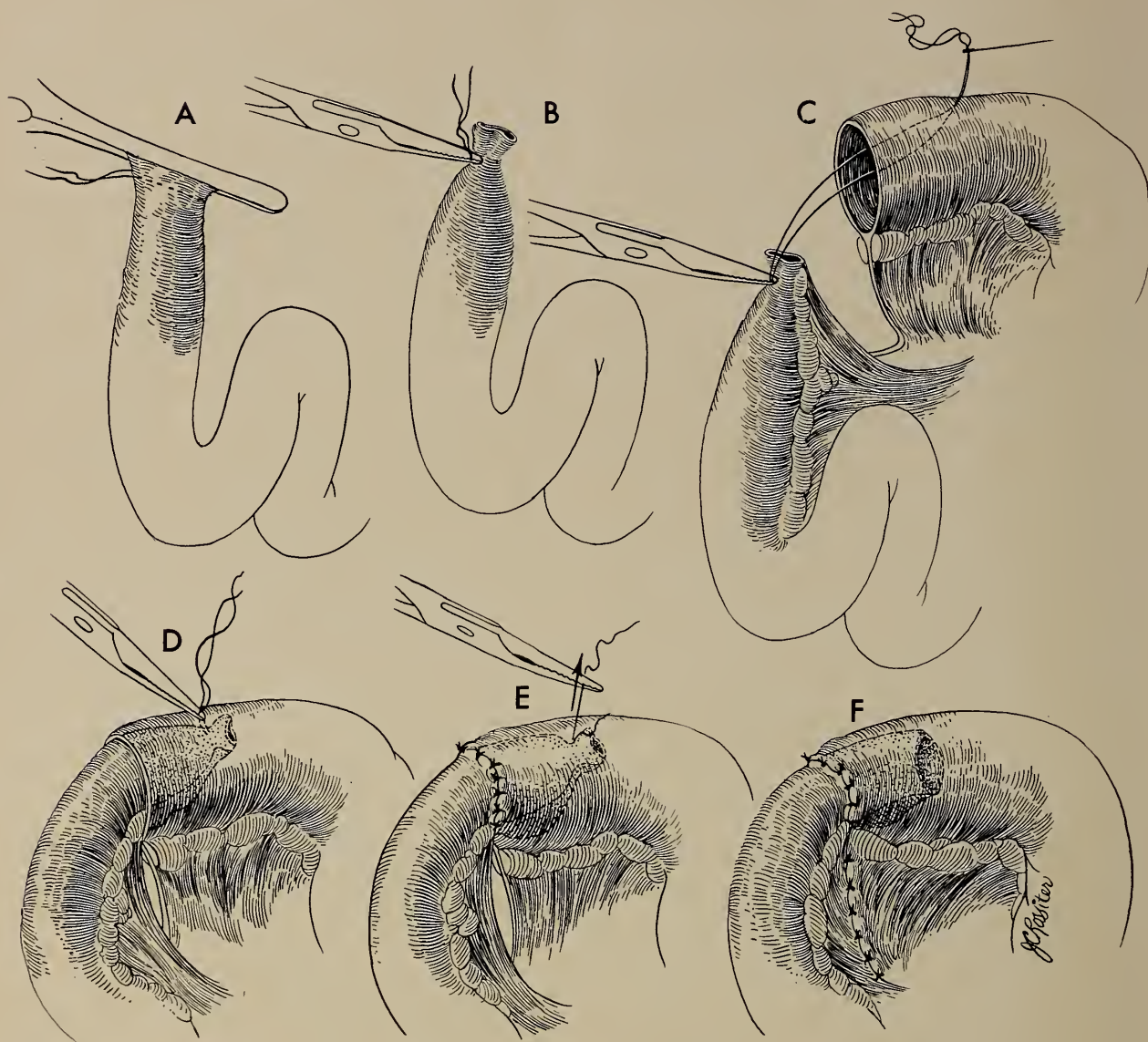


Fig. 1, A to F. Technique of telescoping end-to-end ileocolostomy.

using the end-to-end telescoping anastomosis.

Results

The animals resumed their preoperative eating and defecation habits within one to seven days following surgery. Barium enema

days after the original operation; the pointer indicates the suture line with ileum to the left and colon to the right. Figure 3 is a lateral view of the same specimen after the colon was incised and reflected showing the telescoped segment of ileum in the lumen of the colon. Figure 4 is an end-on view of the same specimen.



Fig. 2. Photograph of specimen removed from dog 56 days after anastomosis. Pointer indicates suture line; ileum is to left; colon is to right.



Fig. 3. Photograph of same specimen after colon has been incised and reflected showing telescoped segment of ileum lying in lumen of colon.



Fig. 4. End-on photograph of same specimen.

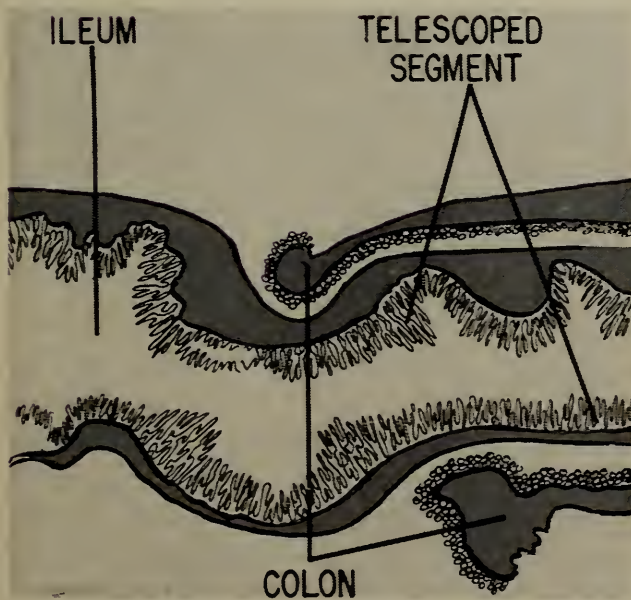


Fig. 5A. Diagram of photomicrograph of specimen removed immediately after anastomosis.

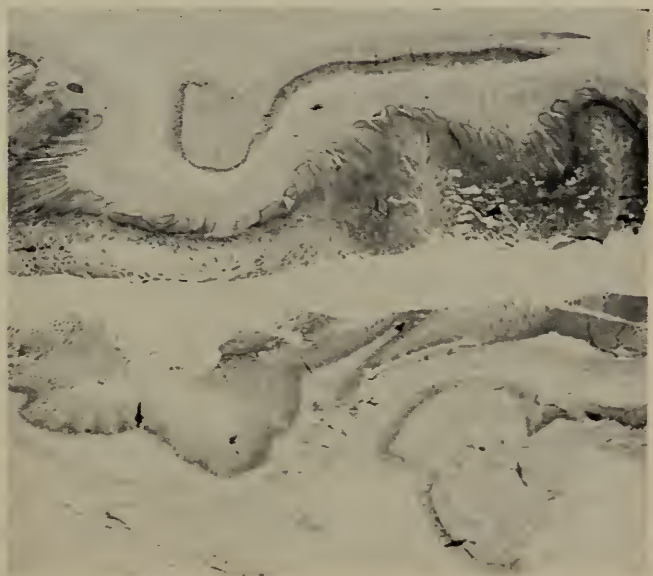


Fig. 5B. Photomicrograph of specimen removed immediately after anastomosis showing no change in any part of the telescoped segment.

On microscopic examination some interesting changes were noted on the serosal surface of the telescoped segment. In a specimen removed immediately after the anastomosis had been done—no change at all was

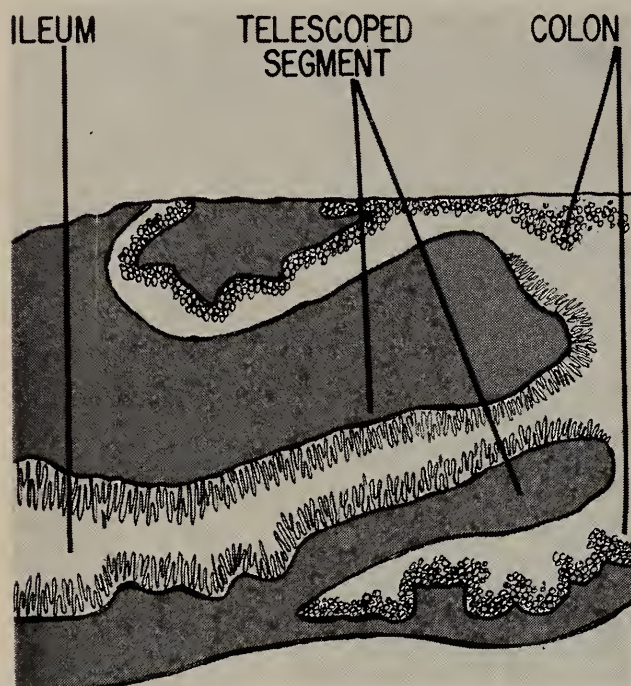


Fig. 6A. Diagram of photomacrograph of specimen removed 10 days after anastomosis.

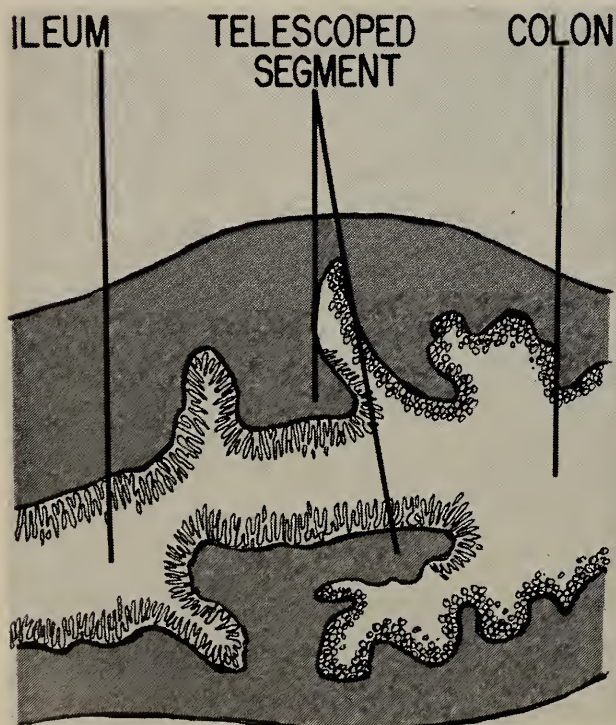


Fig. 7A. Diagram of photomacrograph of specimen removed 15 days after anastomosis.

seen in any part of the telescoped segment (Fig. 5A, B). In a specimen removed 10

days following the initial operation, the serosa was seen to be denuded and replaced by a granulating surface (Fig. 6A, B). In a specimen removed 15 days after the initial operation about one-fourth of this granu-



Fig. 6B. Photomacrograph of specimen removed 10 days after anastomosis showing granulating surface which has replaced serosal surface of telescoped segment. Note, too, edema of telescoped segment.

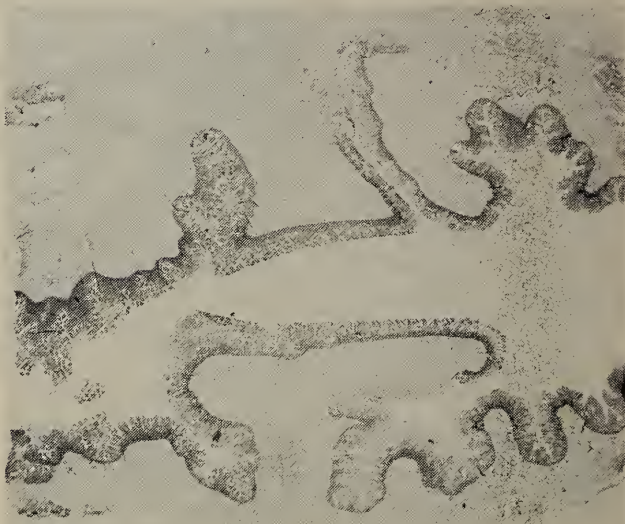


Fig. 7B. Photomacrograph of specimen removed 15 days after anastomosis showing distal fourth of original serosal surface of telescoped segment covered by ileal mucous membrane.

lating surface was covered by ileal mucous membrane (Fig. 7A, B); in a specimen removed 30 days after the initial operation approximately three-fourths of the granulating surface was covered by ileal mucous membrane (Fig. 8A, B), and in all speci-

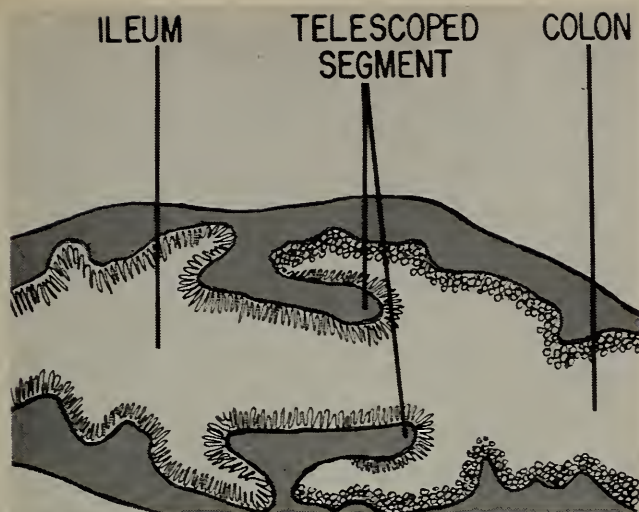


Fig. 8A. Diagram of photomicrograph of specimen removed 30 days after anastomosis. Diagram does not show small island of cells in angle between telescoped segment and colon seen in lower half of photomicrograph.

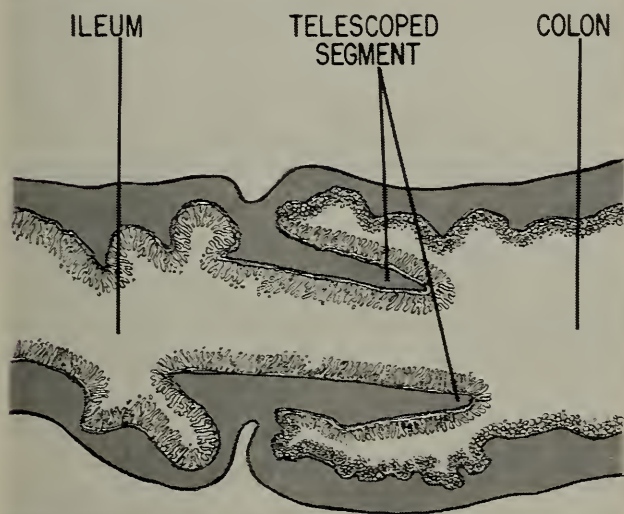


Fig. 9A. Diagram of photomicrograph of specimen removed 56 days after anastomosis.

mens removed 56 days or longer after the initial procedure the entire granulating surface was covered by ileal mucous membrane (Fig. 9A, B).

Comment

The results of this study indicate two distinct things regarding the telescoped segment. First, the segment shrinks in size; second, the segment eventually becomes completely covered by ileal mucous membrane. Up to now there has been no evidence of ulceration, bleeding, constriction, obstruction or intussusception. Based upon this experimental evidence this procedure has been employed in 13 patients and has yielded excellent results.

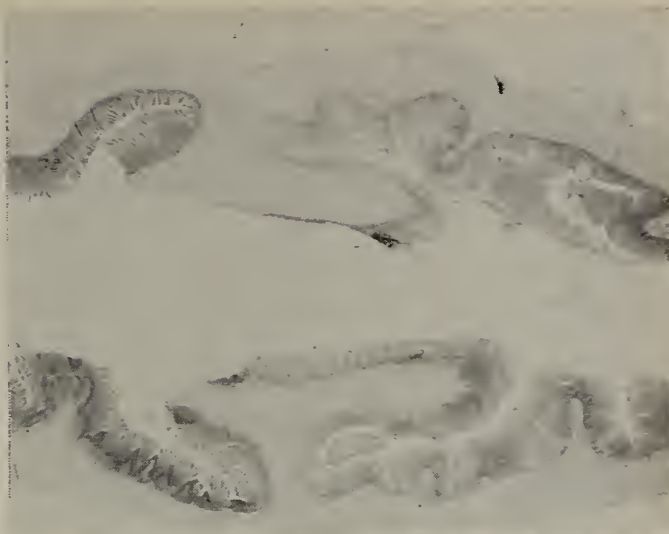


Fig. 8B. Photomicrograph of specimen removed 30 days after anastomosis showing about three-fourths of original serosal surface of telescoped segment covered by ileal mucous membrane.

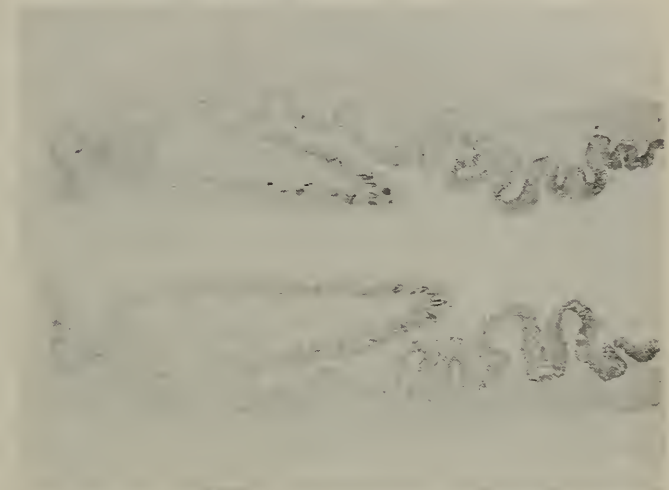


Fig. 9B. Photomicrograph of specimen removed 56 days after anastomosis showing entire original serosal surface of telescoped segment covered by ileal mucous membrane. Note lymphoid follicles known in man as "Peyer's Patches."

Conclusion

Because of its safety, simplicity, rapidity of execution and immunity from the hazard of leakage at the suture line, it is our opinion that this method of performing ileocolostomy is superior to other conventional methods.

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400 Locust Avenue
Charlottesville, Virginia

Eye Problems in the Elderly

Cause and Treatment

M. K. HUMPHRIES, JR., M.D.
Charlottesville, Virginia

Certain of the disorders of the eye and lids occur most often in the elderly. Many can be corrected, some can only be controlled. The cause and treatment of these conditions is discussed.

NINETEEN MILLION PEOPLE are now close to the age of 65 or over. A number of eye problems are associated with this age group. The eye lids and the eye, in all of its components, are generally involved to some extent. Some of these changes can be corrected or improvement brought about, others have to be accepted with assurance that they are not harmful, and some with the knowledge that every effort is being made to prevent them from becoming worse. Gentle firmness after a detailed study and analysis and never closing the door of hope is essential.

The Most Common Lid Affections in the Aged (Kornzweig¹)

1. Edema of the lids due to circulatory disturbance
2. Ecchymotic spots—many indicate a purpuric tendency
3. Angular conjunctivitis—due to the Morax-Axenfeld diplobacillus (Rx) Zinc ointment or silver nitrate
4. Seborrheic dermatitis—often associated with seborrheic dermatitis of the scalp
5. Atrophy of the lid tissue—resulting in
 - a. baggy lids

- b. senile ectropion
 - c. senile entropion
6. Pigmentation of the lids
 7. Cutaneous tumors
 - a. benign
 - b. malignant
 8. Facial paralysis
 9. Senile ptosis

(Fisher²) Aging alters the content of the orbit and the eyelids in a characteristic and striking way. There is a loosening of the fascia and orbital septum and a shrinkage in the orbital fat—resulting in a sinking-in of the globe. The skin becomes extensible and wrinkled and the tarsal plates relaxed and soft so that the lower lids begin to either fall away or turn in toward the globe. The following slides demonstrate

1. Atrophy of the skin—dermochalasis
2. Senile Ectropion
3. Senile Entropion—having the patient squeeze the lids together helps to demonstrate the characteristic appearance

Treatment—Surgical

Cutaneous Tumors

Benign growths of the lids are common and near the lid margins may be found senile keratoses such as *warts*, *papillomas* and *epithelial horns*. Removal is indicated when they are multiple or unsightly.

Malignant tumors of the skin and lid margins are relatively common with the incidence somewhat greater in men than in women. The *lower eyelid* is involved in 54%, the *inner canthus* in 28%, the *upper lid* in 13%, and the *outer canthus* in 5%. In the early stages they are characterized by an indurated, elevated, nodule with an irregular

surface and the skin may be freely moveable. Ulceration occurs as the lesion enlarges. 85% are basal cell, 10% are squamous cell and 5% are adenobasal type.

Treatment of these tumors must be given with due regard to the function of the eyelid and the cosmetic appearance. For the large majority, surgical excision with plastic repair is the best mode of treatment.

Tumors of the Conjunctiva

Squamous cell epithelioma of the conjunctiva (10:1) is ten times more common than the basal cell type. It usually arises at the limbus and spreads to the cornea and adjacent bulbar conjunctiva. In this area, it usually has a pearly-grey appearance. The basal cell type has no particular distinguishing characteristics except that it tends to be more flat than the squamous cell type.

Treatment

The treatment depends entirely on the size and location of the tumor mass: in most cases excision is sufficient, in other, beta radiation and/or enucleation.

Motor Disorders of the Lids

Facial paralysis (Bell's Palsy) is not uncommon. If the facial nerve is completely involved, then the triad of *epiphora*, *paralytic ectropion* and *lagophthalmos* may result. Tearing due to the lower lid falling away from the eyeball and the accumulation of tears is especially distressing, and the inability to close the eye may result in exposure and scarring of the cornea. A partial alleviation of this condition can be produced by a lateral tarsorrhaphy (closure of the lids) of sufficient extent to bring the lower lid closer to the eyeball and diminish the lagophthalmos so that the palpebral fissure is about one-half its normal width. This will protect the cornea during sleep when the eyeball rolls up under the lid. Infrequently, an additional median tarsorrhaphy may be necessary.

Senile Ptosis

Senile ptosis is due to several factors among which are weakness of the levator muscle, relaxation of skin of the upper lid which folds over and rests on the lashes, and the herniation of the orbital fat into the subcutaneous tissue which by its weight may produce ptosis. On the other hand, senile atrophy of the retro-orbital fat produces a senile enophthalmos and also partial ptosis.

The condition is seldom of sufficient extent to interfere with vision. However, there are some cases of vascular insufficiency to the basal ganglion that results in paretic or paralytic unilateral ptosis so marked that crutch glasses are necessary or later a more definitive surgical procedure such as fascial sling.

The more common type is treated, if necessary, by alleviating the cause, removing excess skin, the herniated fat from the upper lid and closing the opening in the orbital septum.

Tearing

1. *Hyposecretion of tears without corneal or conjunctival alterations*

Atrophy of the lacrimal gland is a fairly constant occurrence and results in the decrease of tear formation causing a minimum of symptoms in people past 65 years of age. These patients complain of a slight irritation, often a burning sensation of the eyes. The use of artificial tears once or twice a day is helpful in relieving these symptoms. We generally use a liquid plastic called Liquifilm, which is a polyvinol alcohol, as the most effective agent.

2. *Hyposecretion of tears with corneal and conjunctival alterations*

The hyposecretion of tears for some months may reach the extent after which there is such dryness of the conjunctiva and cornea that marked staining of the epithelium results indicating epithelial damage. In this stage there may be extraocular man-

ifestations such as dryness of the mucous membranes of the nose, mouth, pharynx, esophagus and the joint bursa. The treatment here continues on a symptomatic basis since the exact etiology is not yet known. In this stage, the eyes are treated by the application of artificial tears during the day, boric acid ointment at night, and by closure of the lacrimal puncta. It is not all cases of hyposecretion that progress to this point. It is felt that the progression of the hyposecretion of tears is more common than is generally recognized, and 3/4 or better of the cases are found to be present in women. The decrease in the function of the lacrimal glands seems to affect both eyes equally.

3. *Hypersecretions in the Aged*

There are those in this age group with weepy eyes and the exact cause is not clear. Robaxin 750 mg. four times a day has been helpful in some cases. Others may need removal of the palpebral portion of the lacrimal gland. Its control is indeed important as the frequent wiping of the eyes often leads to eversion of the punctum and conjunctivitis.

Vision

The elderly patient requires about two and a half times more illumination than the twenty year old and visual fatigue is the result of their efforts to overcome handicaps due to such factors as subnormal vision, insufficient light and general weakness. Age slows the adaptation of the eyes to dark and they take a longer time to recover from exposure to glaring light.

The main causes of the decrease in visual efficiency in old age falls into four divisions—

1. Cataract
2. Glaucoma
3. Conditions due to diabetes
4. Conditions due to vascular diseases such as—
 - a. macular degeneration

- b. closure of the central retinal artery
- c. closure of the central retinal vein

Cataract formation is definitely one of the concomitants of old age. All statistics have shown that it is inevitable if one lives long enough. It is surprising how few of these individuals are sufficiently handicapped visually to require surgical correction. This figure is about 15%. One point that needs to be emphasized is that glaucoma is occasionally the result of a hypermature cataract. The lens becomes swollen and takes up too much room for a safe pressure and begins to break down and close the filtration angle. We should not let these cases go to this degree of hypermaturity as some will develop glaucoma as a complication.

Treatment

Modern cataract surgery is well advanced and removal of the lens is successful in restoring useful vision to more than 95% of the patients for whom surgery is recommended.

Glaucoma

The *commonly quoted figure of 2%* for the incidence of glaucoma in the population over 40 years of age is not applicable to the elderly. In the age group 65 to 92, percentage with glaucoma ranges from 5.3 to 13%. The increased incidence of glaucoma in the aged (Harrison-Wolf,⁴ Deutsch et al.⁵) may be due to the failure of the senescent eye to reduce aqueous formation commensurately with the diminished outflow facility. About 12% of all blindness is caused by glaucoma and an estimated 50,000 persons in the United States are totally blind from it, while probably 150,000 others are blind in one eye as a result of the same disease. Since glaucoma can be controlled but not cured, early detection of the first elevation of intraocular pressure is imperative to prevent ocular damage. *This evidence indicates the need for a glaucoma test to become a part of the physical examination of*

the elderly and thus prevent a silent glaucomatose state from developing into a permanent visual loss.

Treatment

There is much less surgery for glaucoma than in the years past. The cases are more carefully screened and more are controlled medically.

1. Medical Treatment
 - a. Miotics
 - b. Anhydrases
2. Surgical Treatment
 - a. All narrow angle cases—peripheral iridectomy
 - b. Chronic open and mixed angle type that medical therapy will not control—filtration to the outside

Diabetic Retinopathy (Ballantyne and Nichaelson⁶)

The incidence of diabetic retinal changes is increasing as the present day therapy leads to a longer life for most of these patients.

The stages of diabetic retinopathy are as follows:

1. Micro lesions—
microaneurysms alone or accompanied by minute hemorrhages and punctate exudates
2. Macro lesions—
dot and blot hemorrhages
waxy exudates—discrete and confluent sometimes circinate
3. Vascular lesions—
retinal hemorrhages, irregular expansion of the veins and formation of knobs, loops, coils, sheathing of the veins, new formed intraretinal and preretinal plexuses, vascular tufts in the vitreous with thrombosis
4. Destructive changes—
vitreous hemorrhage—retinitis proliferous, detachment of the retina and vitreous, secondary glaucoma
5. Mixed forms—

Diabetic changes with arteriosclerosis and hypertension

Treatment—Involves

1. Careful control—avoidance of hyperglycemia
2. Control of hypertension and attention to arteriosclerotic factors
3. Elimination of infectious foci
4. Hypophysectomy—or stalk section

It is too early to evaluate this procedure, yet some patients have been definitely benefited. The procedure should be done while there is still useful vision in the better eye. The average deterioration of vision from a nest of new capillaries on the optic disc or elsewhere in the fundus to a disorganized fundus with extensive new vessels and fibrous tissue formation takes place in five to ten years.

Conditions Secondary to Vascular Diseases

1. Macular degeneration

The conditions secondary to vascular disease are several, but the one that causes visual impairment to a large number of elderly people is macular degeneration. (Kornzweig⁷) A review of more than 1,000 in the age group of 60-90 revealed macular degeneration in 30% of the entire group. In those under 80 years only 24% but in those over 80 years 38.7%. This emphasizes that the expectancy of macular disease increases with the years. Macular degenerative disease is essentially of two types (Klien⁸). The first is characterized by a gradual thickening of the choroidal intercapillary connective tissue, an aging process, resulting in an altered diffusion of nutrients to the macula. The macular area, in one eye to begin with but later usually in both, shows fine dark and white stippling, with the latter appearance of pigment clumps and white spots. The background may become orange colored. The onset of visual loss is gradual and the macular changes may be hard to find.

Excellent vision may remain for a long time, and in this type there are alternating stationary and progressive periods. However, in some cystic degeneration of the macula results in a macular hole and loss of central vision. The second type of macular degeneration is not so insidious, and is characterized by the sudden onset of edema, exudate and hemorrhages, generally loss of all central vision. The cause is degenerative change in the homogeneous membrane between the retina and the choroid (Bruch's membrane) and a secondary growth of capillaries and fibrous tissue through these gaps.

Many older persons exhibit white colloid spots (Drusens) in the macular region and elsewhere in the fundus. These are small, discrete, rounded, white spots deep to the retinal vessels. They may be associated with pigmentary changes in the macular. In some cases visual impairment results to a severe degree.

Treatment of Macular Degeneration

There is no specific therapy. The benefit of treatment

1. lies in increased blood flow, acceleration of the absorption of extravasates, reducing edema and the formation of scar tissue. We do not feel that vasodilators should be denied these patients and use Roniacol Timespan (150 mg.) which lasts 12 hours, 8 a.m. and 8 p.m. Steroids are used in the disciform exudative type.
2. Some can be helped with proper lens changes; for example, low vision aids which assist near vision.
3. Reading Book Machine, for those that cannot be helped.

(Virginia Commission for the Visually Handicapped, 3003 Parkwood Avenue, Richmond, Virginia)

Sudden Painless Loss of Vision

Sudden loss of vision, partial or complete,

and without pain is practically always due to an occlusion of the central retinal artery or an occlusion of the central retinal vein. Vision may not be affected if only a branch vessel is involved. (Although often considered sudden, retinal detachment usually takes place more slowly within hours or days.)

Arterial Occlusion

If the occlusion is arterial, the retina is usually pale with nutritional edema and there are no hemorrhages. The macula will appear as a cherry red spot in contrast to the edematous retina around it. The arteries are narrowed or absent and the optic disc is pale. At times, one sees a broken column of blood in the arteries. The edema gradually subsides, but the attenuation of the retinal arteries and optic atrophy remain. The occlusion may be preceded by visual disturbances which come and go for some time before there is either branch occlusion or total occlusion. The classic form of central retinal artery occlusion is seen in old people with arteriosclerosis and hypertension, which has produced proliferation of the intima leading to complete occlusion of the lumen, and to this we must add that type of occlusion associated with temporal arteritis.

Treatment

The success of therapy is best when the early signs of visual disturbance are recognized and antispasmodic therapy instituted immediately. The success of after-closure-therapy varies with such factors as the condition of the vessel, the degree of spasm and the condition of the retina (Lafferststra⁹). Nevertheless, every effort should be made to restore the blood flow as soon as possible by vasodilators and massage to soften the eye.

1. Vigorous massage to the globe
2. Paracentesis with amyl-nitrate inhalation best emergency therapy
3. Priscoline 75 mg. I.V. Stat.

4. Soften eye with retrobulbar anesthesia with Wydase
5. Steroid therapy for those on an inflammatory basis (arteritis)

If the flow is restored, combat the spasmotic element with long acting vasodilators such as Priscoline Longtabs, a.m. and p.m. at 8:00. Because the retina can survive hypoxia longer than brain tissue, the prognosis is fair if treatment is instituted promptly within 20 minutes. If delayed for over 20 to 40 minutes (in complete occlusion) the visual prognosis is hopeless.

Venous Occlusion

Occlusion of the central retinal vein is almost always gradual leading to definite, but often unrecognized premonitory signs. When the central retinal vein is occluded, a hemorrhagic retinitis is produced, characterized by engorged veins and with blood and transudate covering the entire retina. If the occlusion is only one branch, the blood is confined to the quadrant served by that branch. However, some blood will gravitate from the superior branch downward and if it happens to be in the temporal area may obscure vision by involving the macular zone. The site of the occlusion is almost invariably in or just behind the lamina cribrosa, where as a rule, the central artery and vein approach each other and possess a more or less common wall. This same arrangement also occurs in the retinal branches at the arteriovenous crossing.

The pathogenoses of venous occlusion generally is thought of in two separate divisions (Klien¹⁰). (1) One type is the result of an anatomic narrowing of the venous lumen by abnormal A-V crossing which may produce an increased readiness for thrombus formation. (2) The other type of venous occlusion results from an obliterating type of sclerosis. This type is a more serious type to treat.

The danger signals of eminent retinal venous occlusion are as follows:

1. Blurred vision

2. Impaired venous pulsation at the disc
3. Retinal edema
4. Microaneurysms

All of these may not be present at one time in the very early stage. However, they do indicate impending occlusion and with a lowering of blood pressure during sleep total occlusion can result.

Treatment

1. Preventive anticoagulant therapy has a wider scope of usefulness than does the curative attempts which are made after an already accomplished occlusion. However, the impending occlusion is not recognized as often as it should be. Anticoagulant therapy in a patient with impending occlusion is started at once, and it might be necessary to continue it for some months until efficient circulation is established.

2. When there is a more or less complete occlusion the immediate institution of anticoagulant therapy beginning with Heparin followed by Coumadin is necessary if any hope of improvement in the visual acuity is to be expected. When there is a decrease in blood volume indicated by spasm of the arterioles, then antispasmodic therapy to increase the blood flow is necessary. If there is a possibility that the occlusion may be on an inflammatory basis (vasculitis) the immediate institution of steroid therapy should be considered. Because of the danger of secondary glaucoma, Pilocarpine drops are used preventively in these cases.

It is hard to judge the results of therapy as obviously those that are treated before complete occlusion occurs get better results. The overall picture, however, would indicate that about 20% with occlusion of the central retinal vein regain some useful vision in the effected eye, but others improve very little and may end up with less than 20/200 vision. Branch occlusion gives very good results particularly when they are in the lower nasal areas.

Vitreous Opacities—Retinal Detachment

The vitreous is a gel-like substance which

fills out the posterior part of the eye. It *can serve* as a kind of wastebasket and at times there may be found the products of retinal degeneration such as pigment and red blood cells floating in it. Due to the aging process, the vitreous fibrous elements usually become more numerous, empty spaces appear and collapse, and vitreous detachment occurs in more than 50% of those past 65 years (Goldmann¹¹). The patient complains that he has for sometime seen threads when he looks at a uniform grey or white surface—he has had light sensations recently and now a few days before, a greater opacity has appeared in the visual field—dumb-bells, rings, snakes. Usually the state thus reached remains more or less stationary. However, the vitreous detachment does not always take place unobtrusively. It may be associated with retinal hemorrhage, subhyaloid hemorrhage, vitreous hemorrhage, retinal tear and retinal detachment.

It cannot be overly emphasized that hemorrhage into the vitreous means a retinal tear until proven otherwise and that careful examination should be done as soon as possible. The success of retinal detachment surgery is now better than 90% and the sooner the diagnosis is made the better the visual result.

Conclusion

It is felt that this review and discussion of some of the eye problems in the elderly will

be of benefit to the ophthalmologists as well as to the general practitioner.

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Limitations of the Oral Cholecystogram

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Oral cholecystography has a secure place as a diagnostic test. It does have limitations, however, and in some instances has not been performed without mortality.

THE ORAL CHOLECYSTOGRAM is frequently employed as a diagnostic test and is considered to be 90 to 95% effective in ruling in or out disease of the gallbladder. Certain conditions other than gallbladder disease itself, however, can account for an abnormal gallbladder film. Likewise, gallbladder pathology may be present, yet the gallbladder appear normal on x-ray. It is the purpose of this paper to review these aspects of gallbladder radiology and present several cases of our own of special interest.

First, a word about normal gallbladder physiology. It is the function of the gallbladder to store and concentrate bile produced by the liver, liver bile having a specific gravity of 1.009-1.013, and gallbladder bile 1.026-1.032.⁶ Filling of the gallbladder occurs passively as a result of back pressure produced by closing of the choledochoduodenal sphincter of Oddi. Bile flow from the gallbladder is stimulated by the hormone cholecystokinin, produced by the upper small intestine. The vagus nerves are thought to have a role in maintaining normal tone of the gallbladder wall. Vagotomy results in dilatation of the gallbladder, but emptying still occurs in response to a fatty meal.²⁶

Cholecystography, by the method of Graham and Cole, is an x-ray demonstration of

gallbladder physiology. The patient is given a contrast medium containing iodine by mouth which is absorbed into the blood stream through the small intestine and excreted in the bile by the liver into the common duct. Contracture of the sphincter of Oddi causes the bile-laden medium to flow into the gallbladder. Here, fluid is absorbed and the medium concentrated to such a density that it can be seen on x-ray. When pathologic physiology is demonstrated by non-visualization of the gallbladder, it is then assumed that pathologic anatomy of the gallbladder is also present. Some problems may arise, however, in the correlation of the x-ray picture with the clinical picture.

Table I, for example, lists some of the major causes of x-ray abnormality of the gallbladder in the absence of intrinsic gallbladder disease. Non-absorption of the pills is self-explanatory.

In regard to liver disease, Mandel, et al.¹⁹ feel that the degree and not the type of hepatic disease determines the ability of the liver to excrete the contrast material into the biliary system. It is their feeling that Bromosulphalein retention below 20% and a total serum bilirubin lower than 5 mgs per 100 cc should not interfere with gallbladder visualization. With values above these levels, however, gallbladder visualization may be impaired. Certain commonly used drugs, as Chlorpromazine, Methyltestosterone, Thiouracil, Dinitrophenol and Iproniazid, can cause hepatocellular damage and produce the clinical picture of obstructive jaundice.^{1,13,23} Recently, reaction to Erythromycin estolate has been reported mimicking acute cholecystitis including temporary non-visualization of the gallbladder in the absence of jaundice.⁹

Presented at the Annual Meeting of The Medical Society of Virginia, Norfolk, October 11-14, 1964.

TABLE I

CAUSES OF X-RAY ABNORMALITY OF GALLBLADDER
WITHOUT GALLBLADDER DISEASE*Possible Duration of
Impaired Function*

1. Non-absorption of pills:
 - a) pills not taken
 - b) pills vomited
 - c) diarrhea or too rapid transit
 - d) pills remain in stomach
 - e) malabsorption (regional enteritis, etc.)
2. Liver Dysfunction:
 - a) liver disease ⁽¹⁹⁾
 - bilirubin over 5 mgs per 100 cc
 - BSP over 20%
 - b) hepatocellular damage from drugs
 - Erythromycin estolate, ⁽⁹⁾ etc.
3. Pancreatitis ⁽¹⁴⁾ Up to 6 weeks or more
4. Peritonitis (of non-pancreatic origin): ⁽²⁷⁾

a) inflamed duodenal ulcer-----	27 days
b) diverticulitis -----	40 days
c) perforated duodenal ulcer-----	90 days
d) perforated cecum -----	12 days
e) perforated jejunal ulcer-----	7 days
5. Abdominal Surgery (peritoneal irritation): ⁽²⁷⁾

a) subtotal gastrectomy -----	90 days
b) transverse colostomy -----	84 days
c) abdomino-perineal -----	45 days
d) closure of colostomy-----	9 days
e) recurrent ventral hernia-----	15 days
6. Trauma: ⁽¹⁵⁾
 - After severe injury to any part of body, as
 - perforated lung, traumatic amp. hand, per-
 - foration thigh, fracture humerus and scapu-
 - lar. -----Up to 8 days
7. Absent gallbladder
8. Physiologic stasis ⁽²⁾
9. Infant gallbladder (under three years of age) ⁽³⁾
10. Pseudoconcretions in Contrast Media ⁽²⁸⁾

Characteristically, non-visualization of the gallbladder occurs during the first week in acute pancreatitis.¹⁴ Thus, at a time when diagnostic assistance is very much needed, this examination is of value only when visualization of the gallbladder occurs. Normal radiologic visualization has usually returned by four to six weeks after the acute episode of pancreatitis.

Sanchez-Ubeda, et al.²⁷ found that peritonitis of non-pancreatic origin, and other types of peritoneal irritation, could affect normal gallbladder x-ray function. The severity of the process and proximity to the gallbladder were determining factors in the duration of the malfunction, and also older patients had a more lasting disturbance.

Howard,¹⁵ studying young males between the ages of 18 to 25 years who were healthy until wounded, found that severe injuries to any part of the body could cause temporary non-visualization of the gallbladder. The reason for this phenomenon is not entirely clear, but was felt to be due to primary gallbladder failure as part of the body's systemic response to trauma.

The association of ulcer disease, diverticulitis, pancreatitis, trauma, abdominal surgery, and drug reaction with x-ray non-function of the gallbladder points out the importance of the history and clinical setting in evaluating any single laboratory test.

Though congenital absence of the gallbladder may be considered gallbladder pathology in the strict sense, it is mentioned here to keep it in mind, and also to emphasize the importance of always performing common duct exploration and cholangiography when this finding is encountered on the operating table. Cholangiography is important to establish the diagnosis of agenesis, and exclude the possibility of intrahepatic gallbladder. In addition, common duct stones have been reported in over 40% of these patients when symptoms of biliary tract disease existed.¹⁰

As discussed by Brewer² and Curl,⁸ physiologic stasis can cause non-visualization of a normal gallbladder. If a patient has been on a fat-free diet, or unable to retain any food, the gallbladder may not have emptied for several days, and the bile will then be thick and concentrated. Fresh bile, containing the contrast medium, will be unable to enter the gallbladder, and the gallbladder will not visualize on x-ray. A preliminary fat meal, when stasis is suspected, will decrease radiographic error.

As mentioned by Caffey,³ gallbladder visualization is inconsistent under three years of age. The exact cause for this is not known, but may be because the infantile liver cannot excrete the contrast medium satisfactorily, or, in the infant, the sphincter of Oddi may relax more frequently,

allowing the medium to escape into the duodenum, or the cystic duct may not be open enough or the gallbladder large enough to allow sufficient medium to enter.

Finally, stone-like, radiolucent concretions may appear in the precipitate of the contrast medium in the absence of gallstones, as discussed by Theander.²⁸

TABLE II

TYPES OF GALLBLADDER DISEASE WHERE CHOLECYSTOGRAM MAY APPEAR NORMAL

1. Calcium bile
2. Rarely with inflammatory and metabolic states:
 - a) chronic cholecystitis and cholelithiasis⁽⁴⁾
 - b) chronic non-calculous cholecystitis (subacute exacerbation)⁽²⁰⁾
 - c) cholesterolosis⁽¹²⁾
3. Cystic duct anomaly in child⁽⁵⁾
4. Postoperative cholecystitis (normal preoperative film)⁽¹⁷⁾
5. Disappearing stones^(22, 25)

In Table II are listed certain instances where gallbladder disease may be overlooked or missed because of a normal-appearing x-ray. Milk of calcium bile, or bile composed of almost pure calcium carbonate, is almost always associated with histologic changes in the gallbladder wall consistent with acute or chronic cholecystitis.⁷ Unless a preliminary film of the abdomen is obtained, this phenomenon may be interpreted by the unwary as a normal filling gallbladder. Chronic cholecystitis with cholelithiasis,⁴ as well as subacute, non-calculous cholecystitis²⁰ and also cholesterolosis¹² have been reported with normal cholecystogram. Cystic duct anomaly has been reported⁵ in a nine-year-old male when the main abnormal finding on x-ray was slight enlargement of the gallbladder and delayed emptying after a fatty meal. Not much meaning is normally attached to delayed emptying of the gallbladder, certainly in adults. In children, however, where emptying after a fatty meal is significantly better than in adults, delayed emptying may be of significance.

Acute postoperative cholecystitis is mentioned in this group to emphasize that a normal cholecystogram preoperatively does

not ensure against the development of acute cholecystitis in the postoperative period¹⁷ and may even be misleading by adding a false sense of security. As pointed out by Glenn,¹¹ the salient features of acute cholecystitis after surgery for unrelated disease are its proneness to occur in aged patients, especially males; a high incidence of absence of calculi, and the occurrence in relationship to the resumption of oral intake. Biliary stasis, heightened by the fasting state and administration of narcotics, such as morphine, pantopon, dilaudid, and codeine, are considered the major etiologic factors. The histologic picture is the same as with acute cholecystitis in general.

In 1962, Richards²⁵ found only seven documented cases of spontaneous disappearance of gallstones. He pointed out that gallstones can pass without colic, jaundice, or fistula formation, and may also dissolve in the gallbladder. Though admittedly a rare occurrence, as mentioned by Ochsner²² this phenomenon may occur more frequently than generally believed.

Cases

Let us now turn to some cases of our own:

Fig. 1 (K.H.H., No. 85-891) shows the films of a 53-year-old white female who had a cholecystogram elsewhere prior admission



Fig. 1a. Normal appearing gallbladder in supine position.

interpreted as normal. In the supine position the gallbladder appears normal (1a),

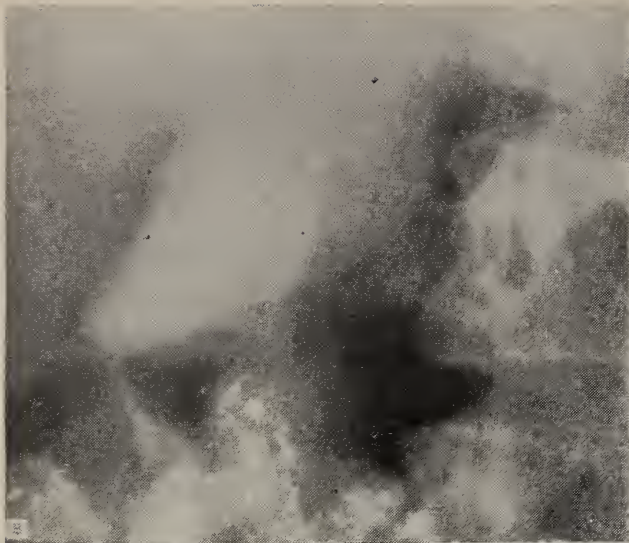


Fig. 1b. Layer of stones visible across mid portion of gallbladder, upright film.

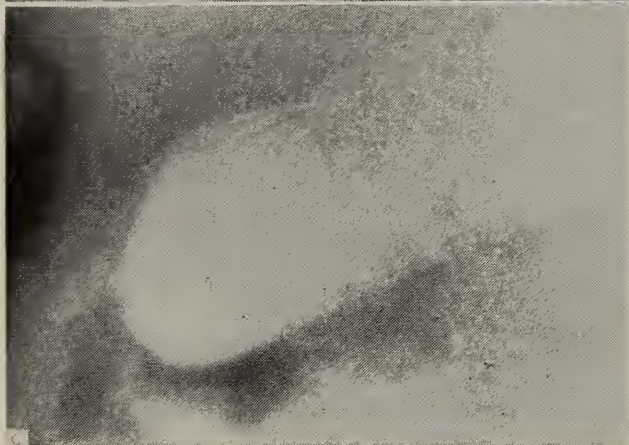


Fig. 1c. Normal upright film with repeat dose of contrast medium.

but in the upright position, a layer of fine stones becomes visible across the central portion of the gallbladder (1b). A repeat film was made the following day, after an additional dose of contrast medium, in an effort to better delineate the stones. This concentration of contrast medium was so dense, however, that the small stones could not be seen and the film appeared normal (1c). A portion of the numerous small stones found in the operative specimen can be seen (1d). This case illustrates the importance of always obtaining upright films of the gallbladder,¹⁸ and emphasizes how small stones may be lost in a heavy concentration of contrast material.

Fig. 2 (B.P.N., No. 138-693) shows perfectly normal gallbladder function and appearance in a 41-year-old white female

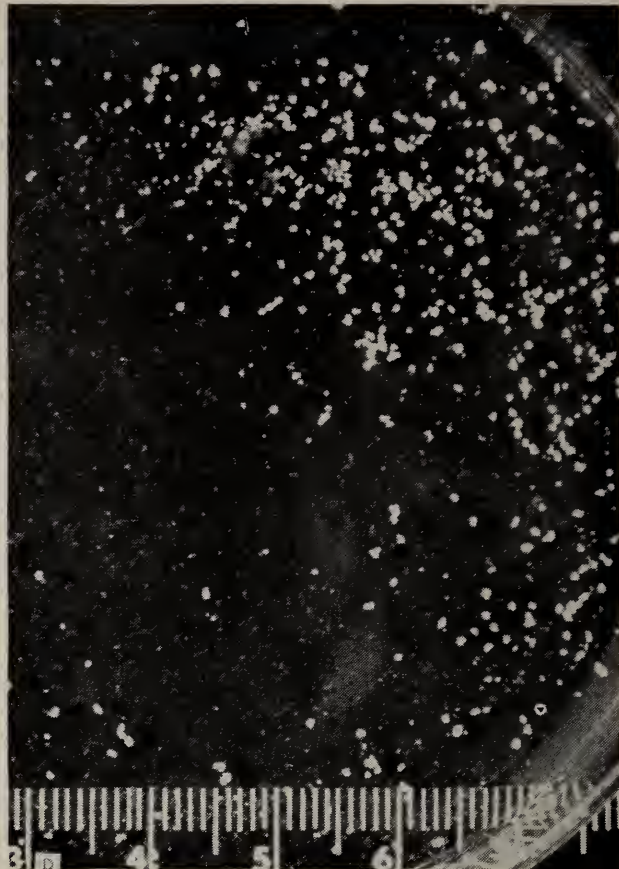


Fig. 1d. Portion of the numerous stones found in operative specimen.



Fig. 2. Normal cholecystogram 16 months after cholecystostomy.

who had undergone cholecystostomy and removal of a large stone from the gallbladder at the time of hysterectomy sixteen months previously. Because of continued symptoms of right upper quadrant pain, cholecystectomy was performed. The pathologic report revealed chronic cholecystitis. Normally, unless medical contraindications exist, cholecystectomy is anticipated at a later date after cholecystostomy without any additional need for gallbladder study. This case serves to point out that though minor histologic changes may be present in chronic cholecystitis, and x-ray function appear normal, symptoms may be significantly pronounced.

Fig. 3a, (R.M.T., No. 612-D, Shelter-

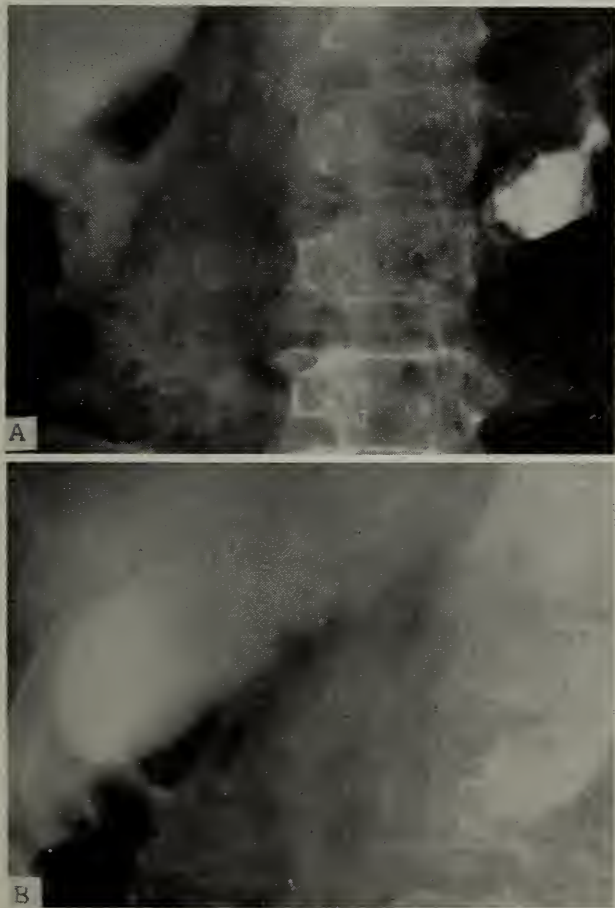


Fig. 3a. Gallbladder dye retained in stomach at 15 hours.
b., filling of gallbladder 24 hours later, after repeat dose.

ing Arms Hospital) shows the major portion of the contrast medium retained in the stomach at the end of fifteen hours and only a faint gallbladder shadow. In instances such

as these, we recommend merely repeating the normal dose of the cholecystographic agent and performing the test again the following day (Fig. 3b). It must be remembered that the administration of a double dose of medium is not without danger. At least nine cases of fatal renal shutdown with Orabilex are cited by Wennberg, et al.,²⁹ and two cases of transient oliguria associated with telepaque reported by Rene and Mel-linkoff.²⁴ Cholecystographic agents are weak acids, most of them having pronounced crystalluria potential, and they are absorbed better in alkaline media. If a double dose must be given to any patient with disturbed renal function, it is suggested that the patient be given an alkalizing agent.²¹

Fig. 4 (C.P.K., No. 141-878) shows the chest film of a 54-year-old white male with advanced carcinoma of the lung. At the



Fig. 4. Advanced carcinoma, left lung. No gallbladder function on three cholecystograms.

time of this film, liver function studies were completely normal, but the gallbladder series showed non-function on three occasions. At postmortem study, the gallbladder and extrahepatic biliary system were completely normal.

Fig. 5a (C.M.G., No. 143-890) shows the cholecystogram of an 84-year-old white

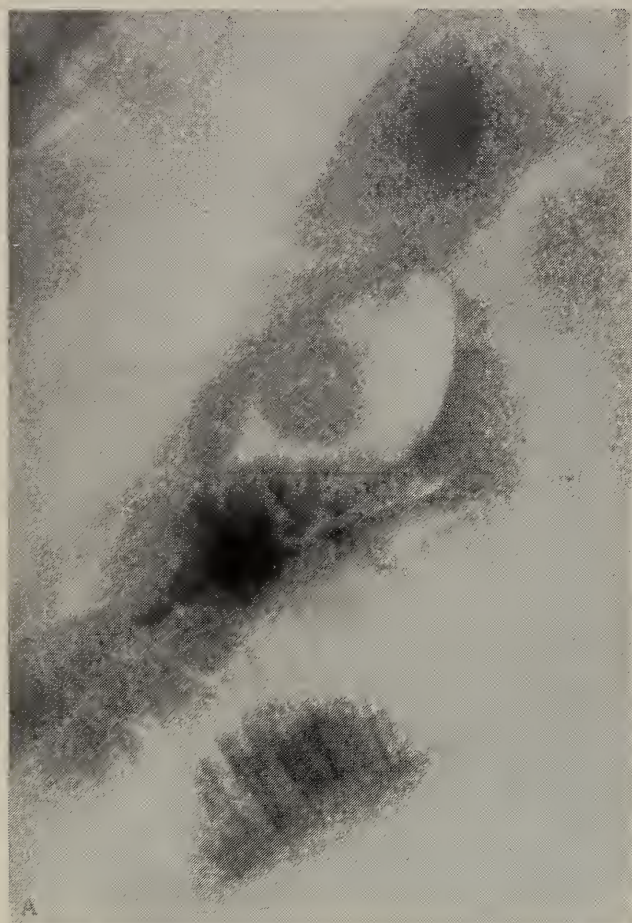


Fig. 5a. Cholecystogram, with repeat dose Telepaque, 24 hours after barium meal. Gas shadows overlie gallbladder.

female after a repeat dose of Telepaque. The x-ray was obtained 24 hours after barium examination of the esophagus and stomach, and additional views were unsatisfactory, because of retained barium obscuring the gallbladder. The diagnosis of low, small intestinal obstruction was made, and laparotomy the same date revealed obstruction of the ileum secondary to adhesions and an inflamed gallbladder which contained no stones. The two large shadows overlying the gallbladder are gas. Fig. 5b is the tissue section showing the severe degree of inflammation in the gallbladder wall.

The last three cases are grouped together as they deal with filling defects within the gallbladder.

Fig. 6 (E.S.G., No. 137-287) shows the



cholecystogram of a 54-year-old white female who had indigestion and right upper quadrant pain for some years. The filling defect in the fundus was interpreted as a myo-epithelial abnormality or adenomy-

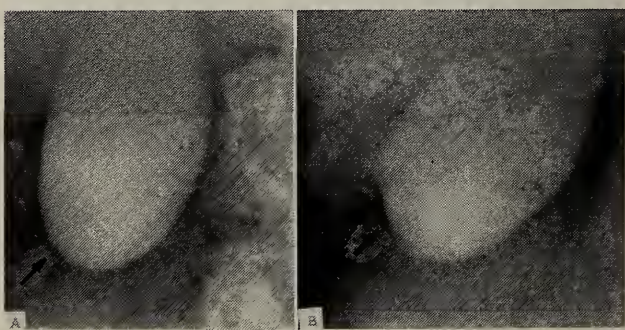


Fig. 6. Filling defect in fundus of gallbladder, best seen in b.

oma.¹⁶ Histologic section showed chronic cholecystitis, the filling defect being caused by inflammatory sinuses within the muscularis of the gallbladder wall.

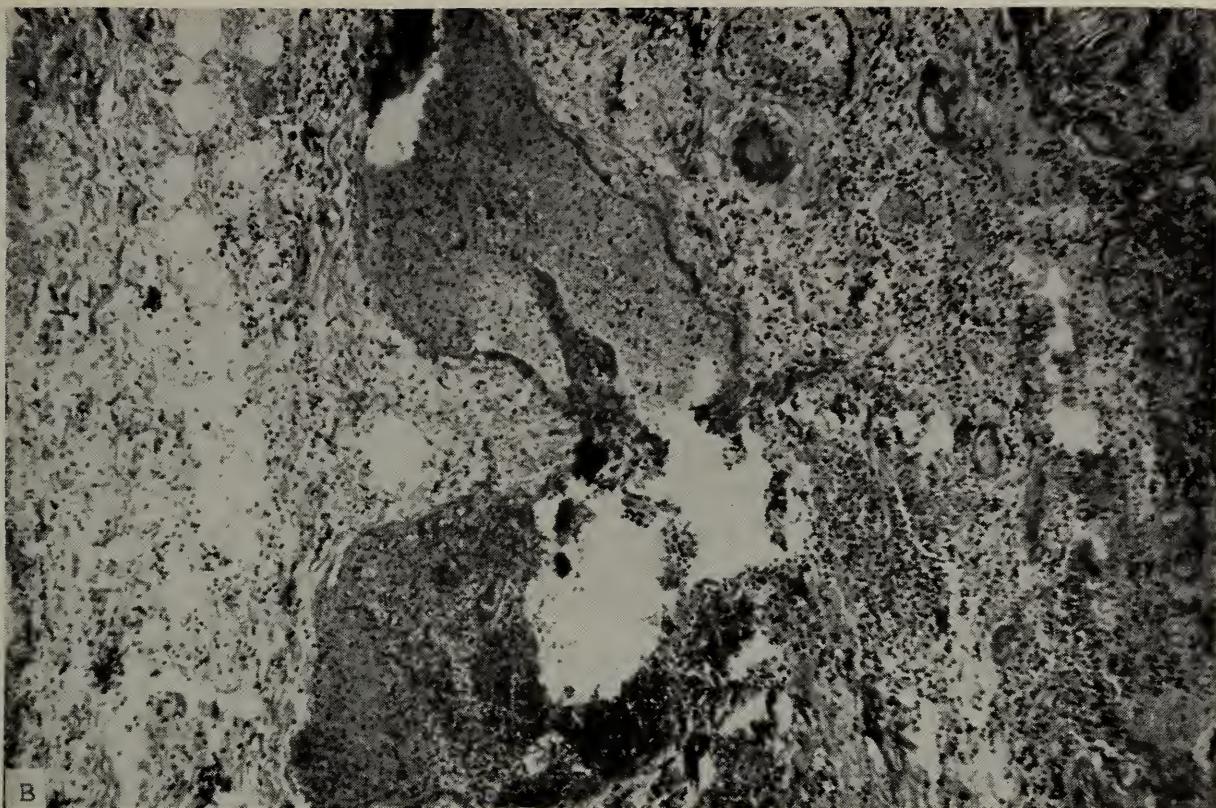


Fig. 5b. Tissue section showing severe degree of inflammation in gallbladder wall. Low (at the left) and high power (above).

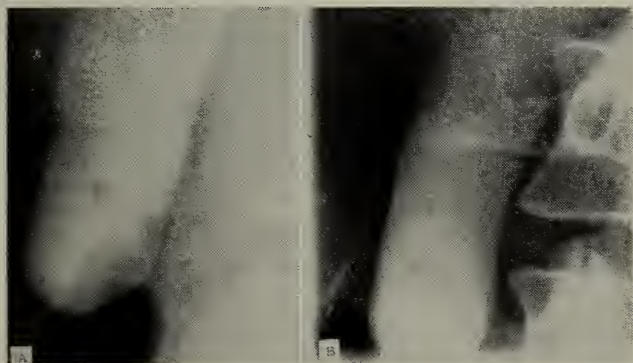


Fig. 7. Filling defect which remained stationary (a.), and doubled in size in 9 months (b.).

Fig. 7 (N.E.P., No. 115-664) shows the x-ray of a 25-year-old white female with chronic digestive symptoms interpreted as showing a polyp. The defect remained in the same place over a nine-month period, and doubled in size over this time. At operation, she was found to have chronic cholecystitis and cholelithiasis.

Fig. 8 (K.S.A., No. 114-910) shows another filling defect in the gallbladder of a

65-year-old white female interpreted as a polyp because of its stationary location, even after manipulation of the abdomen by the radiologist, and the slight degree of indentation in the wall of the gallbladder at the

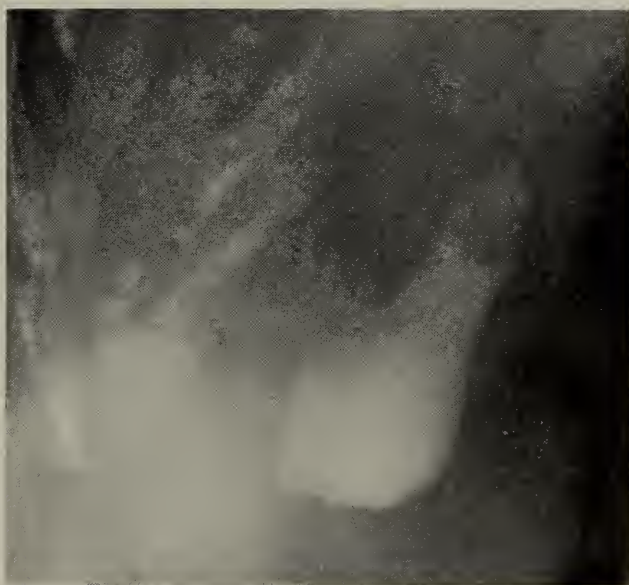


Fig. 8. Stationary defect with indentation of gallbladder wall. Cholesterol stone.

base of the defect. This shadow turned out to be a cholesterol stone.

These last three cases serve to confirm the difficulty experienced by others in accu-

rately interpreting defects seen within the gallbladder. Symptomatic chronic cholecystitis was present in each of our cases, and it is our policy to recommend removal of all gallbladders with filling defects, unless there is a medical contraindication.

Summary

It has been the intent of this paper to lend perspective to x-ray examination of the gallbladder. The oral cholecystogram is an extremely useful and remarkably accurate diagnostic aid, but it has to be interpreted in the light of the clinical setting and must be carried out under appropriate conditions. Unfortunately, it has not been performed without mortality. The major limitations of oral cholecystography have been reviewed and technical details to improve accuracy discussed.

GENERIC AND TRADE NAMES OF DRUGS

1. Bunamiodyl sodium—*Orabilex*
2. Iopanoic acid—*Telepaque*
3. Erythromycin estolate—*Ilosone*
4. Chlorpromazine—*Thorazine*

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Smoke or Get Fat?

Which is less a health risk: to keep smoking and stay slim, or to give up tobacco and gain weight? That's the dilemma facing many smokers. There is statistical evidence associating both smoking and overweight with health risks. Many who give up smoking find that they're extra hungry, and the pounds begin to pile on. They eat more because they no longer use tobacco, which acts as an appetite depressant.

A physician poses the question in the August 23rd *Journal of the American Medical Association*. He asks what the statistical advantages are of smoking vs. overweight.

Three widely known medical authorities agreed in published replies that the question isn't an easy one. They each gave a different answer.

It is "quite advantageous to stop smoking cigarettes even at the risk of gaining some weight," said Jean Mayer, Ph.D., D.Sc., of the Howard School of Public Health, Boston, Mass. "A well-known statistician has said that he estimates it would take a weight gain of over 120 pounds to offset the . . . effect on longevity of two packs of cigarettes a day."

However, an American Medical Association statistical authority pointed out that there are conflicts in the evidence. Said Stanley Schor, Ph.D., director of the AMA Department of Biostatistics:

"Some studies show that the people who smoke one to nine cigarettes per day have the same excess mortality as people who are 30 per cent overweight. Other studies show

that people who smoke less than ten cigarettes have a much higher excess mortality than people who are 30 per cent overweight; other studies show just the opposite." Even if all the studies produced the same "trade-off," say ten cigarettes per day are equal to 40 pounds of excess weight, this still does not mean that the trade-off formula can be applied to an individual. "Other characteristics associated with obesity may be the factors decreasing life expectancy in the same way that other factors associated with smoking may decrease life expectancy."

The third respondent was Abraham Kagan, M.D., of Honolulu, formerly an epidemiologist on the Framingham (Mass.) heart study. Dr. Kagan said he couldn't give a precise mathematical answer, but it seemed clear that "the potential disadvantages of increased blood pressure and of increased illness from diabetes and angina pectoris (associated with overweight) are far outweighed by the potential benefits of decreased illness and death from 'heart attacks' and lung cancer to be derived from stopping smoking."

Perhaps Dr. Schor best summed up the problem, saying that Dr. Smith's question "was certainly simple and straightforward, but these are often the questions that are the most difficult to answer."

"The prudent man will not allow himself to gain weight when giving up cigarettes, and if he dies sooner than expected it will be too late to kick himself for losing some enjoyment out of life."

Joint Treatment of Marital Problems

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Treatment of marital problems is more likely to be successful when there is joint treatment of the couple than when there is individual treatment alone.

PSYCHIATRISTS often encounter in a covert way the psychosomatic symptoms resulting from disturbed marriages and, to some extent, they encounter the overt symptoms of the disturbed marriage. It is up to the psychiatrist, of course, to decide which couples he can work with jointly, which couples are amenable to his counseling and medical help, and which problems will need to be treated individually. It is in no wise intended by this paper to suggest that every case of marital difficulty, whether it presents itself as a psychosomatic problem or as an overt marital problem, will respond to joint treatment. However, this paper does present two cases of marital difficulties in which there has been joint treatment of marital couples.

Case #1 represents the case of a woman whom we will call Mary E., who was referred first for out-patient evaluation by her family physician. The patient had had excessive drinking over the period of the past several months, and her husband had seen three previous psychiatric sources to talk with them about his wife. However, each time she developed suspiciousness about his motives in going to seek help for her and refrained to go through with any suggested treatment. On this occasion, however, the patient was brought in by her husband, and

he insisted on talking with me first. I refused to do so and saw the patient first. After obtaining a history from her, I then brought her husband in with her and discussed with them some of their mutual problems which had been present over the previous years. The patient and her husband both stated that her drinking began after her children were matured and away from home. She added also that her problems with her husband began after she was not permitted to have a budget to spend on her own. She felt that he spent unnecessarily for himself by buying an expensive boat, a cabin on the lake and several items of fishing gear and other equipment which he used for his own pleasurable pursuits. He admitted that he had bought these things; however, he said that she never insisted on having anything for herself and when he gave her a small allowance per week, she never complained and instead would frequently get drunk.

The background of these two individuals is very pertinent. The woman came from a large family of ten children, had always been a sort of protector of the other members of the family, the one who managed the finances and the one who helped the other children take care of themselves, etc. Since her children have grown up, she had turned her attention largely to her mother who is becoming senile and who is quite a problem. She spent a great deal of time with her mother, caring for her, but despite this, her mother's senility and confusion created a problem for her. The mother would frequently become angry at Mary and this caused her to be disturbed. After a bout of this sort, the patient also would resort to drinking. These bouts and the drinking episodes, both after conflicts with

her husband and after conflicts with her mother, became more and more frequent to the point where help was sought. After I had seen both the husband and wife together, I recommended to her that she come into the hospital for a period of withdrawal from alcohol, followed by joint treatment of her and her husband to resolve some of their marital difficulties. The patient became angry at this suggestion and accused me and her husband of being in collusion against her. (It is interesting that she used this term since her husband is a successful attorney.) At first, she refused to come into the hospital but after driving around with her husband for a bit and thinking it over, she decided that she would.

The patient was placed in the hospital on a gradual withdrawal schedule and medication of Thorazine as a tranquilizer and with these measures, she was withdrawn from alcohol without any physical complications. While in the hospital she was treated after the first week with daily group sessions, with her husband participating in the Saturday session. Both became quite interested in resolving their difficulties and began to feel that their problem was more complex than the simple matter of her drinking. Since they both seemed motivated for continuing therapy, they were placed in an out-patient group with other couples.

The patient has been out of the hospital for over a year at the time of this paper. She and her husband are improving in their communication with each other, her excessive care of her mother has diminished a great deal, and her husband has adopted a more flexible attitude toward a budget. Of course, their problems are not resolved at this point, but at the present time life is more pleasant for both her and her husband, and the patient, Mary E., has remained sober.

Case #2 represents a more serious problem, and I shall call this couple Jean and Augustus. This couple, man and wife, had been seen first by the family physician who

felt that there were overt marital problems, since the wife had requested a divorce and told her family physician that she was in love with another man. He referred them first to a psychiatrist in another town, who was not particularly interested in working with couples, and this psychiatrist referred them to me.

As to the background of the couple, Jean was an only child of excessively doting parents and had married Augustus 16 years before. The mother and father both had showered excessive attention on her, despite the fact that they had intense difficulties of their own and always put up a pretense of a cheerful, happy front. However, Jean recalls that her mother and father slept in separate bedrooms for a good many years of her life and never showed any sign of affection.

At the time Jean met Augustus, she was in high school and he was a teacher at the local college. She said, "I grew fond of him because he was such a fatherly person." At the time of their marriage 16 years before coming to my office, the patients decided to elope because Jean was frightened to tell her father about the marriage. However, two days after they had been married they were eating dinner at Jean's parents' home. She became very frightened for fear that her parents would detect a sign of their marriage and collapsed at the table and had to be hospitalized. It was thought that she might have some kind of cerebral vascular accident; however, there was no concrete evidence of this. The patient had a rather hectic time following this until finally the marriage was revealed.

Augustus' background was that of a family who had a great deal of pride. His father always taught him that they were somewhat better than other people in the neighborhood because of their better financial status and Augustus had taken a great deal of pride in this family relationship. Augustus had an elder brother who played a very important part in the marital discord. The

patient, Augustus, had no manifest problems of a psychogenic nature, however, until the marriage had begun to collapse.

The marital history revealed that despite a rather hectic beginning, the marriage settled down and as Jean said, "He was very good to me and took good care of me." The first eight years of marriage presented no particular problems of note, except for some financial problems requiring Augustus to leave his job as a teacher and assume a job with business. After this, there were some beginning difficulties in the marriage and some question of separation came up. However, Jean and her husband both decided that they would be better off if they had more children. They had two children of their own, one of whom had some degree of brain damage at birth and who was quite limited in his aptitudes at that time. They adopted two children after the eight years of marriage and apparently for a period of time suppressed their conflicts together.

However, Augustus then assumed a job traveling extensively with his business and was away from home at least one-third of the time. During this period of time, their marriage became less stable. Jean began to feel that her husband did not care as much for her as he had before and she became very suspicious of him, distrustful and felt that he was with many other women while on his trips. Whenever he came home there was conflict at home and he used more and more excuses to be away.

In addition to this, Augustus' brother became involved in an embezzlement charge, requiring a great deal of financial aid from Augustus and this created additional stress on the family. Finally about two years before they came to my office, Jean had decided that her husband did not love her anymore and she began seeking companionship from other men. Augustus began drinking excessively, both at home and away, and their problems increased to where they were near the point of divorce.

After seeing this couple conjointly first,

Augustus appeared to be suffering from alcoholism and we hospitalized him first for a period of withdrawal from alcohol on a gradual basis. During the interim, psychological testing and evaluation of his wife revealed a rather severe depression with associated paranoid manifestations, such as suspiciousness, distrust and some overt delusions. Augustus, after being treated for his withdrawal symptoms, was discharged from the hospital and his wife was admitted. She was treated in the hospital with fairly large doses of tranquilizers, group and individual therapy, and after improving some in the hospital, they were placed together in conjoint group therapy on an out-patient basis.

At the time of this dictation, both have been out of the hospital for several months. The wife is much less suspicious of her husband. Some of her delusions, such as her feeling that her husband is a homosexual, have subsided and both are working together in out-patient group therapy with other couples. In addition, there are individual sessions with both the husband and wife on occasions.

These two cases represent only a small sample of the type of cases which require psychiatric treatment. In both cases, alcoholism played a big part in the manifestations which originally brought one of the marriage partners to a psychiatrist. Since we are limited in time here, it is not possible to go into too much detail about the background and past histories, but the purpose of this paper is to present a method of dealing with marital problems and in these cases with alcoholism as associated in marriage. The experience I have had with alcoholism, working with couples on a joint basis has been the most effective method of dealing with the alcoholic problem. In addition to the problem of alcoholism, frequently there are associated mental illnesses in the marriage partners which need to be treated as well, as in the case of Augustus and Jean. The continual suspiciousness, distrust and accusations which Jean leveled at her hus-

band, of course, may very well have aggravated his tendency toward alcoholism.

I have tried in this short paper to present a method of dealing with marital problems where there is first joint evaluation of the husband and wife couple, followed by either in-or-out-patient treatment of both members of the couple, with continuing treat-

ment on a group basis after leaving the hospital. It has been my experience, as well as that of my colleagues, that joint treatment of the couple produces a far greater percentage of results than individual treatment alone.

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STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION
(Act of October 23, 1962: Section 4369, Title 39, United States Code)

1. Date of Filing
October 5, 1965
 2. Title of Publication
Virginia Medical Monthly
 3. Frequency of Issue
Monthly
 4. Location of Known Office of Publication (Street, city, state, zip code)
4205 Dover Rd., Richmond, Va. 23221
 5. Location of the Headquarters or General Business Offices of the Publishers (Not printers)
4205 Dover Rd., Richmond, Va. 23221
 6. Names and Addresses of Publisher, Editor, and Managing Editor
Publisher—The Medical Society of Virginia, 4205 Dover Rd., Richmond, Va. 23221
Editor—Dr. Harry J. Warthen, Medical Arts Bldg., Richmond, Va. 23219
Managing Editor—E. Spencer Watkins, 4205 Dover Rd., Richmond, Va. 23221
 7. Owner
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4205 Dover Rd., Richmond, Va. 23221
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Single issue nearest to filing date—3848
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Medical Practice in Cuba Before and After Castro and by Cuban Physicians in Exile

FELIPE GARCIA CANIZARES, M.D.
Salem, Virginia

This is an interesting account of medicine in Cuba before and after the Communist take over. It is written by one who was there.

IT IS A GREAT PLEASURE for me to have the opportunity to talk with you on the subject of medicine in Cuba, before Castro and after Castro, and the activities of Cuban doctors in exile. I will do my best to give you the facts about the subject in a short period of time and then let you make your own conclusions.

Medical education was officially started in 1721, in the University of Havana, but official reports reveal that lectures in medicine were given by several of our oldest pioneers long before this date. Prior to 1959, when Castro took over the government, our School of Medicine located in Havana, capital of Cuba, did its best to improve its teaching program, changing and modifying it through the years, according to the latest teaching methods of the best qualified schools of medicine in Europe—mostly France and Germany—for the first two hundred years, and patterned after the teaching methods in the United States for the last 37 years.

Our medical program before Castro included eight years of elementary school; five years of high school (the fifth year would be considered as a first year of college in the United States); and seven years of medical and surgical study, with practical training in surgery, obstetrics and gynecology after the fourth year. This was

followed by at least one or two years of internship at the University Hospital and subsequently by residencies in different specialties.

Upon graduation from Havana University, permission to practice medicine was granted by our Ministry of Public Health upon presentation of official credits and diploma. This would be the equivalent of a State Board License and gave the right to practice medicine in the entire Cuban territory.

Of interest is the fact that the government each year gave a certain number of completely free admissions to all facilities in the university to students who could prove their inability to pay university tuition fees. For those who could pay, tuition was less than \$100.00 a semester. This made it easy for students who really wanted to get into medicine.

With Castro and his communist masters there were many changes. First of all, there are no free decisions by students or parents. The state decides upon the field a person will enter, depending on how many engineers, dentists or other professions they need. Students are distributed without even vocational tests being done to determine their abilities. Elementary school is reduced to six grades. Instead of our regular five years of high school, students who are to enter the medical profession receive an intensive premedical course; at first this was of two years' duration but this has now been reduced to 14 months; and then they receive just four years of study in medicine and surgery. This means that our once proud, two-centuries-old school of medicine is now giving permission to practice medicine and surgery

to students with only four years of training; and, we have to consider the fact that most of the staff professors have already left the country. What knowledge can these new doctors have acquired in such a short period of time, led by new professors—if we can call them professors—who two years before never thought about teaching medicine or surgery? Russian and Czechoslovakian professors were imported to alleviate this situation, but the language barriers make them practically unsuccessful in daily teaching routine.

In 1958-1959, there were 6,500 active, practicing physicians in Cuba, which meant one doctor for approximately 980 individuals. Presently, our medical association in exile, located at 213 Aragon Street, Coral Gables, Florida, has a roster of 1,625 Cuban physicians, but a very conservative estimate is that over two hundred more doctors are in the United States who are not registered. This is only in the United States. According to our association, and from information received from a diplomat a few months ago, who left Cuba, there are possibly over four hundred more physicians spread out through Central and South America. It is estimated that a total of approximately 3,000 physicians have left Cuba, but it is my personal opinion that this figure is a little high. This reveals the tremendous shortage of medical personnel, considering that Cuba had a population of seven million before Castro. Of that number, half a million are actually out of the country, and more than 300,000 are on the waiting list (official through the Swiss Embassy, in charge of the United States in Cuba) for the trips made four times each month to Mexico and twice monthly to Spain.

Medical and surgical care was given to the people of Havana, for example, by the following hospitals supported by the State:

University Hospital, annex to the School of Medicine, 2,000 beds (medical, surgery and obstetrics).

Mercedes Hospital, also related to the

School of Medicine, 400 beds (medicine and surgery).

2 maternity hospitals—250 beds each.

1 children's hospital—300 beds.

1 orthopedic hospital—275 beds.

1 emergency hospital—280 beds (surgery and medicine).

1 mental hospital for the whole Havana province—4,000 beds (one similar, but smaller, in each of the other 5 provinces).

1 cancer center—200 beds.

1 cancer center, for advanced cases—60.

1 tuberculosis hospital in Havana—1,000 beds.

1 tuberculosis sanitarium located in the mountains with 600 beds, 25% for private patients, completed at cost of ten million dollars, two years before Castro. (This latter is not located in Havana.)

The other five provinces had one or two state hospitals in each capital and at least one in each town all over the country. Besides these state hospitals, and please remember, I am talking only of Havana, there were:

Army hospital—2,000 beds.

Navy hospital—300 beds.

Police hospital—250 beds.

A great number of first aid clinics were located in every different section of Havana—I believe there were around twelve—and these clinics gave service around the clock, being manned by two doctors, two nurses and two four-year medical students on three eight-hour shifts. These services were without any charge to patients.

Another modality was the Mutual Hospital Association, which for a monthly contribution ranging from \$3.00 to \$5.00, gave medical, surgical and obstetrical care, laboratory and x-ray services, and medicine to the members. There were twenty of these institutions which had 24-hour, round-the-clock service, with the usual eight-hour shift for doctors and six-hour for nurses.

You may see that there were a lot of positions available for doctors and real good medical care was given to the population.

Under Castro's regime, all of these health centers have been confiscated by the state, which closed around fifty percent of them for lack of material to operate them. Even in the ones which are still functioning, only on real emergencies do they perform surgery and many times even these emergency cases have been delayed (with unfortunate results) for many days, due to lack of anesthesia, surgical sutures or because of the lack of sufficient personnel, these people having been needed in other places or having been transferred to some other center by political pressure. Lack of antibiotics or other medicines needed for surgical operations is a daily event in Cuba, and it is wise to ask, "Where are the fifty-two millions in medical utilities sent by the United States as ransom for the prisoners of the Bay of Pigs invasion?" Where has it gone? It went to different communist countries to pay for all the weapons they require to maintain their regime of terror and robbery!

Private practice was practically a routine in a doctor's life in Cuba, as full-time contracts were not used then. They may have two part-time days, morning or evening, with the remainder of the day spent in their private offices.

A few statistics will show the actual conditions of public health in Cuba, as compared with what we used to have five years ago, and show what a communist regime may destroy in a real short period of time:

Children's mortality before Castro—3.7%; after Castro—7.2%.

New cases of TB in 1959—509; in 1962—1,370.

Syphilis in 1958—501; in 1962—999.

Malaria in 1958—196; in 1962—527.

Diphtheria in 1958—185; in 1962—464.

Deaths from gastroenteritis in 1959—750; in 1962—5,000!

This data is officially given by Castro, him-

self. It speaks for itself and I think needs no comment.

I could talk for a much longer time on the medical situation in Cuba before and after Castro, but in closing this short talk, I would like to give you some details about the development of Cuban doctors while in exile.

We were not allowed to practice medicine in the United States until we had passed the Foreign Medical Examination, which is similar to the examination you take to receive your license to practice medicine in a state. Many of us, on our arrival in Miami (the easy door to the United States), started to work as scrub nurses in surgery or as orderlies in some hospitals in Miami, as a way to earn money to support ourselves and our families. It was not until January 1961, that the School of Medicine of Miami started to organize, with the assistance of most of the former professors of the School of Medicine of Havana, what they entitled Havana University in exile. Once organized, they held courses of three months' duration which helped Cuban doctors to refresh their knowledge and at the same time gave them some training in the English language, which was absolutely necessary to pass the examinations. In spite of the language barrier and the extent of the examinations, which cover the whole basic science course—medicine, surgery, pediatrics, etc.—as well as the short time for study, the examination results were very satisfactory. Seventy percent of the doctors who took the first examination in 1961, passed; allowing them at last to practice in hospitals all over the United States, and giving them an opportunity to sustain their families in a field to which they had been devoted, in many cases, for more than 25 years.

These courses were repeated twice a year as long as there was a continuous flow of Cuban doctors to the United States. The measles crisis October 22, 1962, marked the end of regular flights from Cuba to the United States. However, during the past

two years, physicians have continued to arrive in this country, risking their lives in small boats of 20-feet long to get out of the Island of Terror, which is the name they have given Cuba in the past few years. Some other physicians have used foreign medical meetings as a means of getting permission to leave the country (quite hard to get this permission) and then when they get to the foreign country ask for political asylum, with their only hope to be free again, even if it means they have to start all over again, from the first step in medical courses. Some of them were over seventy years of age, but they faced the situation with strength as if they were in their thirties.

My last words will be to thank once again the United States of America, and particularly the American Medical Association, for their wonderful help in assisting Cuban doctors to begin our way of living again in this country—and to Dr. Bounds and the rest of the staff here who have been kind enough to stand my poor English.

Editor's Note:

Dr. Canizares attended the University of Havana for four years, after which he enrolled at the University of Paris Medical School, in France, receiving his medical and surgical degree in 1935. Following this, he returned to Cuba, entered the University of Havana Medical School and received a Doctor of Medicine degree from that school, also, in 1937. He interned for two years at the Calisto Garcia Hospital, an annex to the Havana School of Medicine; and served four years of residency in obstetrics and gynecology at the Maternity Hospital in Havana. He was in private practice, in the specialties of medicine, obstetrics and gynecology, in Havana for twenty years.

Dr. Canizares came to the United States October 14, 1960, because he felt he could no longer tolerate living in this "land of terror", and the life he would have to live under the communist regime in Cuba; and, he wanted to live in a land of freedom. Dr. Canizares was part owner of a private hospital, which had been built at a cost of approximately three-quarters of a million dollars. This hospital had been in operation for only four months (replacing the old one with which he had been affiliated for 20 years),

when, around the first of October 1960, he was approached in his office by a member of the militia, armed with a machine gun. This officer presented Dr. Canizares with a paper which he was requested to sign, declaring that he was against all countries which might attempt to interfere in the development of the Cuban revolution and, particularly, against the United States. Dr. Canizares refused to sign this declaration. The officer left and shortly thereafter Dr. Canizares was informed that the officer has asked for his address, stating, "When the Day arrives, he will be one of the first to be hanged." Two weeks later, the hospital, as well as all of his property, personal and real, was confiscated. Having already secured airplane tickets for use in emergency, within twelve hours Dr. Canizares and his wife were on their way to the United States.

On arrival in Miami, Dr. Canizares united with the group organizing the Bay of Pigs invasion, serving as a medical examiner for volunteers for several months. He then joined the medical staff which was to be a part of the first group to leave Miami for this invasion. He was at the airport ready to leave when, because of lack of military training, the officials decided that this medical group should not participate.

In Miami, Dr. Canizares studied for his foreign medical examination and received his first job as surgical resident at Doctors Hospital. He then served over two years as a rotating resident at the Kendall Hospital in Miami. Through the program, sponsored by the United States Government, for placement of Cuban physicians in exile, Dr. Canizares was appointed to the medical staff of the Veterans Administration Hospital at Salem, Virginia, on June 22, 1964. He is presently assigned as Staff Physician on the Female Service at that hospital.

Dr. Canizares and his wife have purchased a home in Roanoke and hope to become permanent residents of this community. He has one son, who is general manager for Columbia Pictures in Bangkok, Thailand.

The information contained in the paper by Dr. Canizares was obtained from personal experience; from radio broadcasts originating in Cuba; from the Cuban Medical Association in Exile, whose statistics concur with ones being broadcast by Castro, and with ones furnished by embassies in Geneva and Washington; and from Cubans who have recently arrived in the United States. Because of the verification of the information presented by these various sources, it is felt to be accurate.

*Veterans Administration Hospital
Salem, Virginia*

Clinicopathological Conference

Bloody Diarrhea in a Young Woman

Prepared and Edited by

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Clinical History

This 38 year old Negro female was admitted to the Medical College of Virginia Hospital for investigation of diarrhea. She stated that she had been well until four weeks prior to admission when she developed crampy lower abdominal pain which would be temporarily relieved by the passage of stool. She had had the passage of five to six stools a day which were described as being loose and brown in color. She denied any melena. There was no relationship to ingestion of food or time of day. She had been markedly anorectic since the onset of her illness and had lost approximately 14 pounds. The week prior to admission she had noticed midepigastria fullness and soreness which seemed somewhat greater just to the right of the midline. There was a history of her having been struck in the

abdomen several weeks prior to the onset of her symptoms.

Review of systems was essentially negative.

Past medical history revealed that she had been treated for syphilis in 1947 for a period of eight days. She had normal spontaneous deliveries at St. Phillips' Hospital in 1948, 1950, 1953 and 1955.

Physical Examination: BP 110/70, T. 98.6, P. 100, R. 16. The patient was a thin, well-developed young woman lying quietly in bed. The sclera and mucous membranes were slightly pale and the skin was smooth and dry. The neck was supple and carotid pulses were equal. There was no peripheral lymph node enlargement. The chest was clear to percussion and auscultation. The abdomen was flat and there were no surgical scars. There was an area of fullness about 3-4 cm. in diameter just to the right of the midline in the epigastrium. There was some tenderness in this area but no definite mass could be felt. The left lobe of the liver was thought to be enlarged. The spleen was not palpated but the liver was felt 2 cm. below the right costal margin.

Laboratory Work: Urine was straw-colored, acid and cloudy with a specific gravity of 1.007. Albumin, sugar and acetone were negative. There were 1-2 white cells/HPF. Hemoglobin 11.7 gm.%. White count 6,500, 75% neutrophils, 4% eosinophils, 1% basophils, 17% lymphocytes and 3% monocytes. Serum sodium 134 mEq/l, chlorides 95 mEq/l, potassium 3.9 mEq/l. Bicarbonate content 25 mEq/l. Fasting blood sugar 96 mgm.%. Serum amylase less than 50 units. Total serum bilirubin 0.1 mgm.%. Alkaline phosphatase 3.4 B.L. units. Glucose tolerance test showed a fasting blood sugar of 70 mgm.%, half an hour 207 mgm.%, one hour 140 mgm.%, two hours 70 mgm.%, and three hours 60 mgm.%. Protein bound iodine was 4 micro-

grams %. Cephalin flocculation was negative. T₃ red cell uptake was 40.3 %. Total protein 6.7 gm.%, with 2.9 gm.% albumin. SGOT was 26 units. Thymol turbidity was 13. Stools were negative for blood on three occasions. Stool cultures grew only coliform organisms.

Chest x-ray, upper G.I. series and a gall-bladder series were reported as being within normal limits. A barium enema showed that the cecum failed to fill on one occasion, but a repeat examination was thought to be normal. Liver scan was reported as "showing decreased uptake of radioactive material in left lobe and over the epigastric mass."

Her diarrhea stopped and she had normal well formed bowel movements with a bland diet and antispasmodics. The fullness in the abdomen disappeared. She was sigmoidoscoped to 18 cm. and this was reported as normal. She was discharged and did well at home until two weeks later when she began to complain again of severe diarrhea with passage of grossly bloody stools. She had associated nausea and vomiting and stated that she had had 12-14 stools in the eight hours preceding admission.

Physical examination revealed an acutely and chronically ill young woman. T. 103-6, BP 135/85, P. 120, R. 24. The tongue was coated and dehydrated. The lungs were clear to auscultation and percussion. There was a tachycardia. The abdomen was slightly distended with decreased peristalsis and localized tenderness in the right lower quadrant with rebound tenderness referred to the right lower quadrant. Pelvic examination revealed tenderness to motion of the cervix and in both adnexa but no palpable masses.

Laboratory Data: Hemoglobin 11.7 gm.%. White count 10,000, 73% neutrophils, 23% lymphocytes, 4% monocytes, BUN 24 mgm.%. Amylase less than 50 units. Serum sodium 122, chlorides 85, potassium 3.4 and CO₂ 21 mEq/1. Blood cultures were negative.

The patient was seen in consultation by

the surgical service who suspected a right sided abdominal abscess but were uncertain as to the etiology. Her serum electrolytes were corrected. She was started on antibiotics and, when her clinical condition permitted, laparotomy was performed. Exploration revealed a normal appearing appendix on an edematous and inflamed cecum. The pelvis was clear. The midsigmoid was inflamed. The small bowel was normal except for some distention. The right colon was intact except for the cecum. An appendectomy was performed and drains inserted. Bacteriological cultures of the abdominal fluid and of blood yielded no growth. She continued to run a markedly febrile course with temperatures as high as 105°. Two days postoperatively her blood pressure became unstable and she required vasopressor agents to maintain it at satisfactory levels. She was sigmoidoscoped again which showed a red, edematous mucosa with some ulceration present. There was bloody loose stool flowing from above the sigmoidoscope. It was thought that she had a generalized colitis and a decision was made to do a colectomy as soon as possible. Just before surgery her hemoglobin was 11.2 gm.%. Her white count 9,050 with her differential unchanged. BUN 43 mgm.%. Serum sodium 143 mEq/1, chlorides 100 mEq/1, potassium 4 and bicarbonate content 22 mEq/1. Smears of the stools and Gram stains taken at the time of the sigmoidoscopy were not remarkable. The appendix was reported as showing acute appendicitis. A colectomy and ileostomy was performed, but despite vasopressor agents and plasma, her blood pressure became unobtainable and she died two hours postoperatively.

Clinical Discussion

Benjamin B. Weisiger, M.D.:

Our patient is a 38 year old woman who was never ill before. Her final illness encompassed a period of seven or eight weeks. She came in with a history of watery brown diarrhea for four weeks with crampy lower abdominal pain and five or six stools a day.

There was no blood. She was anorectic and had lost about 14 pounds. Just prior to coming into the hospital she had noticed midepigastria fullness and soreness and there was a history of her having been struck in the abdomen several weeks prior to the onset of symptoms. She was a thin, well-developed, pale young woman lying quietly in bed. Very little was found on physical examination. Some thyroid studies were done but we are not told what her thyroid felt like. The abdomen was flat. She had an area of fullness in her epigastrium and apparently some enlargement of the liver. The fullness, I take it, was just a little bit into the right side of the epigastrium, so I gather that both lobes of her liver were a little enlarged. Her laboratory studies showed several things of interest in view of later events. She had a mild anemia. Her white count was 6500 with a normal differential and it remained essentially normal throughout her hospital stay even though she had considerable fever. She had a low serum sodium and low potassium which were probably the result of diarrhea. A number of studies were done looking for pancreatic disease. The I-131 red cell uptake was elevated, probably because of her low serum albumin. Liver function tests showed a normal SGOT and cephalin flocculation but an elevated thymol turbidity. The latter may have been due to liver disease or due to the alteration in her albumin and globulin. She had several stool examinations which revealed no blood and she had stool cultures; however, there is no mention that her stools were ever examined for amoeba.

May we see the x-rays now?

J. Thomas Baggerly, Jr., M.D.:

The several barium enemas showed that the cecum never filled well. (Fig. 1) According to the fluoroscopist it was fixed in the right lower quadrant. Also there are several irregular areas present in the cecal wall. There was a rather narrow, irregular area in the midtransverse colon. (Fig. 2)

Another examination included air study and at that time again the cecum was never



Fig. 1. Barium enema study of the cecal area. For orientation, the right iliac crest is in the left lower corner of the illustration. The cecum never filled well, was unmoving, and had irregularities in its wall.



Fig. 2. Note narrowed, irregular area in the midtransverse colon where it overlies the vertebra column.

really filled. (Fig. 3) Air was noted to reflux quite easily, however, into the terminal ileum but never really distended the cecum.

Overall, we might describe this as a granulomatus type of colitis.



Fig. 3. Air study of colon. Air refluxed into ileum but would not distend the cecum.

Alton Sharpe, M.D.:

A liver scan was performed after intravenous injection of radioactive gold. There was a very definite abnormality in the configuration of the left lobe. There was a slight decrease of uptake of radioactive gold through the left lobe. In addition, there were several areas of decreased uptake in the right lobe and one could see uptake in the region of the spleen. This suggested hepatic dysfunction because you do not see radioactive gold in the spleen on a "normal scan".

The study was interpreted as showing hepatomegaly with a marked decrease in uptake in the left lobe and over the epigastric mass. This was felt to be due to multiple lesions of the liver.

Dr. Weisiger:

I think this information was helpful. She was treated on this admission symptomati-

cally with a bland diet and antispasmodics and the fullness in her abdomen is said to have disappeared. Sigmoidoscopy revealed no abnormalities. She was discharged and did fairly well at home for two weeks, when she became more acutely ill with severe diarrhea, grossly bloody stools, nausea, vomiting and high fever. At the time of her second admission she was somewhat distended and was quite tender in the right lower quadrant with rebound tenderness on movement of the pelvic organs. She apparently had some severe inflammatory process in her abdomen. Her white count was 10,000 in the face of a fever of 103° . Her serum electrolytes pattern was consistent with severe diarrhea. A surgical consultant suggested an acute, inflammatory process, probably an abscess. She was started on antibiotics and improved a bit. A laparotomy was performed. The liver was not mentioned in the operative report and presumably either was not examined or appeared essentially normal. The patient had a very inflamed cecum and a normal appearing appendix which was later said to show appendicitis on microscopic examination. She also had inflammatory changes in the midsigmoid but the small bowel was all right except for some dilatation. Cultures were taken of abdominal fluid and revealed no growth. She was again sigmoidoscoped and found to have a very ulcerated, reddened, edematous mucosa with bloody stools coming from above. Nothing unusual was seen on Gram stained smears of the feces. It was decided that she should have a colectomy. Apparently they felt that she had ulcerative colitis and felt that she would get well. Her condition was very unstable. Her colon was removed but again we have no knowledge of an examination of the liver.

The differential diagnosis in this case is complex. We shall consider collagen diseases first. Various collagen diseases with vasculitis will cause colonic bleeding. This has been described in polyarteritis nodosa and also in lupus erythematosus. Points in favor

of these disorders are that the patient did have a somewhat low white blood count, high fever and negative cultures. However, the liver involvement in collagen diseases is not as localized as in this case. The patient had no history of skin or joint troubles, pleural, cardiac or renal disease. On these grounds let us eliminate the collagen diseases.

The appearance of her cecum and of her transverse colon suggest the possibility of carcinoma with liver metastases. She did have the suspicious x-rays of the cecum and transverse colon and she did have a suggestion of an intrahepatic mass on liver scan. Her liver function tests did not suggest metastatic disease but we do not have a serum alkaline phosphatase. Liver metastases were not mentioned at surgery.

This sequence of events could all be due to appendicitis, appendiceal abscess, phlebitis and liver abscess due to pyogenic organisms. Most pyogenic liver abscesses are due to gallbladder disease. However, appendicitis which can only be diagnosed microscopically is probably not going to cause hepatic abscess. I would certainly expect to see a higher leukocyte count with that disease and would also expect abnormal liver function tests. It is said that trauma can play a part in causing liver abscess. If her trauma of many weeks ago did cause the liver abscess, it could not explain her other problems.

Intestinal tuberculosis will involve the lower ileum and cecum and may cause x-rays similar to those seen in this case in the cecal area, but tuberculosis nowadays in this country usually occurs in people who have primary pulmonary tuberculosis. They do not tend to get liver involvement like this.

Chronic ulcerative colitis was the diagnosis favored by the people who cared for this patient. She had bloody diarrhea, and was in the right age group. Ulcerative colitis is commonly intermittent, as it was in this patient, but it usually doesn't start in the cecum. The x-rays do not look like

ulcerative colitis to me. A rectal biopsy could be diagnostic of the disease even though there is no inflammation as was the case at the time of the first examination here. Liver disease like this patient had is not described in chronic ulcerative colitis. The most common types are viral hepatitis, ascending cholangitis, or a fatty liver. Crohn's disease (regional enteritis) of the cecum should be mentioned but liver abscesses would be unusual.

This brings me to what I really think she has. That is amebiasis with hepatic abscess. Amebiasis is not particularly uncommon in Virginia. The Health Department has reported 40-60 cases a year over the last several years. We do not know much about this patient's background, where she got water and things of that kind. Did she work at Central State Hospital where amebiasis has been endemic? Cases have been seen here in Richmond. In a group of physicians examined in 1944 by Craig,¹ 12% had *Endamoeba histolytica* in their stools. They came from all over the United States. The cecal area is the favorite initial site of amebiasis. It is the area most involved at autopsy, and the second most involved area is the recto-sigmoid region. Symptoms vary widely. There may be only a mild diarrhea. When only the cecum is involved there is often no blood, just diarrhea or even constipation. Of course, when the left side of the bowel becomes involved the bloody mucosa becomes evident on sigmoidoscopy. Faust² described what is known as the appendicular syndrome. This was a syndrome of people with amebiasis who clinically appeared to have appendicitis. About 3 1/2% of those patients who got amebiasis at the Chicago World's Fair in 1933 had this type of disease and most of those who were operated on died.

What about the liver masses? The incidence of hepatic disease in amebiasis varies with different authors but in autopsied cases, the incidence is about 25% and most often involves the right lobe, forming a single

abscess. However, with far advanced disease, left lobe involvement occurs and abscesses are more apt to be multiple. In DeBakey and Oschner's³ series only about half of the patients with liver abscesses had any diarrhea at all. Fever may be very low or very high. They usually have weight loss, very few have jaundice, most of them have right upper quadrant pain and three-fourths of them have an enlarged liver on physical examination. After a barium meal it is supposed to be more easily recognized because of pressure on the stomach from a mass although this was not seen on the barium film of this patient.

Why did this patient die? In 148 cases reported from the Armed Forces Institute of Pathology,⁴ death was due to intestinal complications in 54% of the cases, 21% to the liver disease, 11% to lung disease and about 6% as a result of surgery.

The patient must have had amebiasis and amoebic liver disease and died from the overwhelming toxicity of the disease which may have been aggravated by the surgical procedure.

John H. Moon, M.D.:

At the time the appendectomy was performed, the liver, kidneys and spleen were palpated and were thought to be normal. At the time of her laparotomy she was too acutely ill for any extraneous probing about to be done.

CLINICAL DIAGNOSIS:

1. Ulcerative colitis
2. ? Salmonellosis
3. ? Appendicitis
4. ? Carcinoma of the cecum

DR. BENJAMIN B. WEISIGER'S DIAGNOSIS:

1. Amebiasis, involving colon and liver

Pathological Discussion

David S. Borland, M.D.:

Dr. Weisiger has discussed this case very well and I am delighted that he covered

amoebic abscesses of the liver. Unfortunately an autopsy was not obtained and the liver was not examined at the time of the operation, so we do not know if there were abscesses.

About 100 cm. of large intestine was removed at the second operation. This friable segment of the bowel had several perforations. Large areas of mucosa were missing. The mucosa was replaced by sheets of adherent yellow membrane. When this membrane was stripped away a hemorrhagic granulating base remained. There were a number of small ulcers present in the few islands of remaining, relatively normal mucosa. Most of us who saw the colon believed it to be bacterial membranous enterocolitis. (Fig. 4)

We were able to trace the ulcers through their various stages of development by examining the smallest through the largest in sequence. Briefly the ulcers appeared to start as tiny burrowings in or between the crypts. They spread laterally in the submucosa and the larger ones extended more deeply. The ulcers burrowed beneath intact mucosa and produced overhanging edges. There was hemorrhage and necrosis on the surface, without scarring presumably because of the rapidly progressing disease process.

The causative organism was found in the necrotic tissue at the base of the ulcers. Large numbers of *Endamoeba histolytica* were present. The trophozoites had abundant granular cytoplasm with a relatively small nucleus which has a prominent central karyosome. Some of the trophozoites had ingested red blood cells. (Fig. 5) These characteristics distinguished the organism from other amoebae. Many of the organisms were autolyzed.

The appendix had been diagnosed as acute appendicitis. A review of the sections showed three dubious structures so autolyzed that exact identification was impossible but it is presumed in retrospect that they are *Endamoeba histolytica* too. There was

ulceration of appendiceal mucosa and acute inflammation.

Amebiasis is more common in this country than many of us realize. Juniper⁵ studied

62 cases in five years in Arkansas; epidemics have occurred in Chicago and South Bend. It is believed that about 3-5% of the population of the United States may harbor the



Fig. 4. Colon: This area of sigmoid shows induration, ulceration, hemorrhage and perforation. These were the effects of amebiasis and secondary infection.

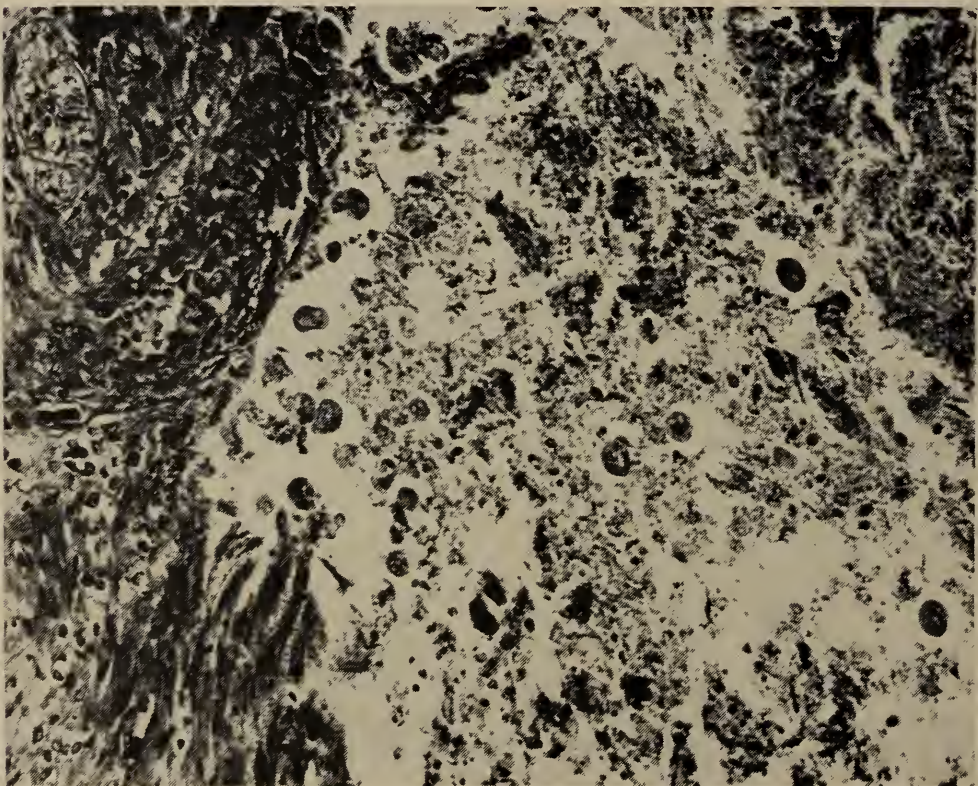


Fig. 5. Colon: Numerous amebic trophozoites, some containing red blood cells, are present with debris in a sigmoid ulcer. (Approx. 700)

organism, with rural areas and low socioeconomic segments of the population having the higher incidence.⁶ Institutions for mental disease traditionally have the highest rate of all. Prevalence rates of 70% have been reported in some of these hospitals.⁶

All epidemics in this country have been traced to contamination of drinking water by sewage. The incidence of amebiasis has increased in this country, perhaps due to extensive, rapid travel, the amoebae being imported from the tropics.⁸

Brooke⁶ commented that in the experience of the Communicable Disease Center of the United States Public Health Service both clinical acumen and laboratory proficiency in the diagnosis of amebiasis are at a low level in the United States. Unless the disease is suspected and proper examination carried out before barium studies or antibiotic treatment started the disease will usually not be diagnosed.

Dr. Juniper⁷ reported considerable success in finding the organism by biopsy of small ulcers in the rectum. He stressed the necessity for examining the mucus which accompanies the biopsy as well as the ulcer itself. Stool examination is by far the best method, however.

In so many cases, the laboratory does not find the organism—because the appropriate specimen is never sent to the laboratory! Stools sent for “ova and parasites”, for “blood”, or for “culture” are not proper material.

Dr. Santos will comment on the necessary procedure.

John Dos Santos, M.D.:

Amoebic cysts are not so difficult to find in routine examination for “ova and parasites” if they are present. The people passing them are commonly asymptomatic, however. The problem arises with the patient who has amoebic dysentery. The stools are liquid and the form passed is the *trophozoite*. This form is extremely fragile. It will lose its motility and dissolve unless the specimen is properly handled.

The medical texts commonly admonish “examine fresh, warm stools without delay.” What does this mean? The specimen should be examined within 15-20 minutes after collection. The term “warm” is often misinterpreted to mean heating the specimen. This will kill the organism. Just hand-carry the specimen container to the laboratory or to your microscope bench for immediate examination.

Dr. Borland pointed out the amoeba at the edge of the ulcer *close* to healthy tissue. In an abscess or ulcer this is where they are most likely to be found.

The use of a cotton swab is a good way to prevent the organism being seen. Instead, aspirate the material with a pipette and syringe from the lesion into a glass container. Again, hasten the specimen to the slide and microscope for examination of the wet material.

I have been asked about use of a serologic test for amebiasis. A complement fixation test has been used, but according to information I have from the Public Health Service it is unreliable and has been discontinued.

PATHOLOGICAL DIAGNOSIS:

1. Amebiasis, acute, of the colon.
2. ? Hepatic amebiasis with abscess.

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Sarcoidosis—A Case Report

It is believed that involvement of the central nervous system in Sarcoidosis is an infrequent finding. Pennell reviewed the literature in 1951 and found 51 cases of such involvement out of 1,500 clinical cases of Sarcoidosis. Cares, Gordon and Kreuger collected another 22 cases as reported in 1964 with only one case reported with organic psychosis. Mental symptoms have been reported by Hook in five out of nine patients. In one of Hook's patients the mental peculiarities were noted to be severe enough to require commitment of the patient to a mental hospital. It is reported the patient remained psychotic for nearly one year before the diagnosis of Sarcoidosis with involvement of the central nervous system was made.

Case Report

History: J.B., Jr. #53095, is a 35-year-old single, colored male committed to Central State Hospital, Petersburg, on February 3, 1965. He was committed to the hospital on a regular mentally ill commitment from Prince Edward County, Prospect. The history indicated the patient had always been somewhat undernourished but had had no serious physical illnesses and was considered to be well developed. He had been self-supporting, doing farm labor on his brother's and sister's farm. His formal education had been limited to the third or fourth grade. He was able to read and write simple words but unable to solve arithmetical problems. He was reported to be usually careful and neat in his personal appearance and friendly and cooperative at home.

KNOPOFF, I., M.D., *Resident, Central State Hospital, Petersburg.*

Approved for publication by Commissioner, Department of Mental Hygiene and Hospitals, Richmond.

I. KNOPOFF, M.D.

The patient's sister, who petitioned for his commitment to the hospital for treatment, stated that about one month prior to hospitalization he had quit work, complained of being physically ill, refused to bathe, and had periods when he did not seem to be able to talk. During these periods of time he would appear to be very angry and stare at people. It was noted that the patient began having "fits" and a description of these "fits" appeared to be grand mal type seizures. He had a total of four such seizures prior to commitment.

On admission to the hospital the patient was partially oriented. He was aware that he was in a hospital and that it was winter-time. His affect seemed inappropriate, he appeared to be hallucinating and was delusional. The patient denied any visual hallucinations. He appeared suspicious and fearful and felt someone may want to harm him. His admission to auditory hallucinations was vague. He admitted to hearing "strange voices" but could not or would not identify such voices. There were no olfactory hallucinations and there was no organized or structural delusional system although his conversation was paranoid in trend.

Physical Examination: On admission the patient was found to be emaciated with evidence of recent weight loss. His eyes had large black circles around them and the skin turgor was poor. He appeared to be chronically ill from a physical standpoint. Large lymph nodes were palpable in the neck and smaller nodes were found in the axillary and inguinal areas. Other than these findings, the physical examination was considered to be within normal limits. The vital signs were satisfactory.

Neurological examination was negative for pathological findings on admission as well as throughout his hospitalization.

Mental Status: There have been marked changes in the patient's mental status since admission with fluctuation from acute psychosis to a stabilized remission. Soon after admission to the hospital the patient deteriorated both mentally and physically. In March of 1965 he was totally disoriented for time, place and person. He was unable to state his age or address. During this period of time he denied hallucinations although he had admitted both auditory and visual hallucinations at the time of admission. Psychological evaluation was attempted during this period of acute psychosis. The patient was given the Kent E. G. Y., Partial Bender-Gestalt, and Draw-a-House and Draw-a-Tree. The diagnostic impression of the psychologist was "probable organic". The report stated: "The nature of the distortions produced by this patient seem more typical of generalized brain pathology rather than of primarily a functional disorder. However, the extent of mental and intellectual impairment is so great as to render differential discrimination by psychological testing invalid."

Laboratory data: The chest was x-rayed on several occasions and showed bilateral hilar lymphadenopathy. In a film done on April 14, 1965, a bilateral basal pleurisy was seen which was not present previously. This finding disappeared two weeks later. Other laboratory findings were: Hemoglobin 13.0 gms. HTC 39%. WBC 6000. Diff. Eos 3. Stabs. 8. Segs. 65. Lymphs. 23. The urinalysis was reported to be within normal limits. The VDRL was negative. A spinal tap was done on February 24, 1965, and the results were: VDRL negative. No cells present. Total Protein 42%. Colloidal Gold Curve 11233210000. The fluid was clear and the pressure was reported to be normal. Bone marrow studies were reported to be within normal limits. Tuberculin skin tests were reported negative. Fasting Blood Sugar and blood urea nitrogen were done on several occasions and were reported within normal limits. Serum calcium 12 mgs. This test

was repeated and was within normal limits. Alkaline phosphatase 6 B. units. Phosphorus 3.65 gms. Heterophils negative. The sputum was tested for acid-fast bacilli on several occasions and was reported negative each testing. Total proteins 6.75 gms. Albumin 3.75 gms. Globulin 3.00 gms. A/G ratio 1.25. Sedimentation rate 57 uncorrected, 32 corrected. Gastric lavage was done on three occasions and was negative for acid-fast bacilli on smears and culture. X-rays of the hands and skull were negative. On June 15, 1965, a repeat spinal tap was done and the findings were: Lymph 1, RBC 2, Total Protein 65, Colloidal Gold Curve 112221100. Lymph node biopsy revealed Granuloma consistent with Boeck's Sarcoid.

An EEG was done on April 7, 1965, and was reported to be within normal limits. The second EEG was done on June 9, 1965, and the report stated, "Record does show some slow activity in the frontal area which may be due to Chronic Brain Syndrome or pathological changes in this area."

Course in the Hospital: After admission to Central State Hospital the patient was placed on Chlorprothixene (Taractan) 100 mgm. t.i.d. He was kept on this medication for several weeks and during this period of time the patient deteriorated progressively from a physical and mental standpoint. A diagnosis of Sarcoidosis was made and the medication was changed to Prednisolone 10 mgm. q.i.d. and ACTH gel. 40 U IM weekly. The patient immediately showed improvement. He became more alert and communicative and described again the auditory hallucinations which he could hear. Because of his psychotic symptoms Trifluoperazine 5 mgm. b.i.d. was added to his medication. There was no apparent improvement in the clinical picture.

A second psychological evaluation revealed less gross organic impairment and distortion. The testing also suggested that this patient was functioning on a low intellectual level prior to the onset of his present illness.

After a one-month treatment, the corticoid was decreased but shortly after this change of dosage the patient again deteriorated mentally and physically. The medication was increased again to 10 mgm. q.i.d. and the Phenothiazine was decreased. The patient showed improvement immediately. A report from the occupational therapist indicated that the patient "will now socialize with other patients and participate in games provided for his interest."

On the most recent mental evaluation the patient was found to be friendly, cooperative and in good contact with reality. His affect was considered more appropriate than had been noted previously. He denied any hallucinations and no delusional material could be elicited on interview. He has remained well oriented to place and person during recent weeks but only grossly oriented to time. It should be noted that the patient seems to have very little interest in the specific date of the month or day of the week. He is able to state his age and address correctly. It is noted that from a clinical standpoint he appears to be functioning on a mild to moderate level of mental deficiency.

Comment: The case history on this individual is being reported for its unusual mode of onset, with a grand mal type of seizure and mental symptoms simulating a schizophrenic reaction, with no other symptoms or signs of involvement of the central nervous system. The patient was presented on Grand Rounds at the Medical College of Virginia on May 26, 1965. The staff of the teaching hospital concurred in the diagnosis of Organic Brain Syndrome due to Sarcoidosis with Psychotic Reaction. The patient has improved considerably with corticoids. It is noted that he deteriorated both mentally and physically when the medication

was decreased but had a second remission of his psychotic type behavior and thinking when the corticoid therapy was increased.

Summary

A case of Boeck's Sarcoid with Involvement of the Central Nervous System simulating a Schizophrenic Reaction without evidence of neurological signs is reported. Only one similar case was found in the review of the literature.

Acknowledgment

I am grateful for the assistance and encouragement given to me in my evaluation of this patient and preparation of this paper by Doctors Leo E. Kirven, Jr., Assistant Superintendent, and Helju Sormus, Director of Training, at Central State Hospital; and Doctors Henry D. Lederer, Chairman of the Department of Psychiatry, and Richard Meiller, Professor of Psychiatry, at the Medical College of Virginia.

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Current Currents

AMA AND MEDICARE: The AMA House of Delegates, meeting in special session in Chicago, recently voted to reaffirm the Association's position that whether or not to participate in the Medicare program (Public Law 89-97) is the physician's own choice. In taking such action, the House rejected resolutions which proposed that AMA support or urge non-participation in the program.

The House also voted to continue to have AMA representatives meet with members of federal agencies and departments for the purpose of developing regulations under the law which will help achieve medicine's objectives in behalf of the public and profession.

HEART, CANCER, STROKE: The President has signed the bill designed to combat heart disease, cancer and stroke, and it now becomes Public Law 89-239. The bill, introduced as a result of recommendations contained in the report of the President's Commission on Heart Disease, Cancer and Stroke, became a subject of controversy when some members of the scientific community charged that the proposed program would disrupt the pattern of providing health care.

In hearings before the House Interstate and Foreign Commerce Committee, the American Medical Association asked that consideration of the bill be postponed until next year. When it became apparent that the bill would pass, AMA suggested some twenty amendments designed to modify the character of the legislation. These amendments were accepted by the Committee and approved by the House and Senate.

VETERANS' DISABILITY: The Senate Finance Committee has favorably reported H. R. 168 which provides for increases in the rates of veterans' disability compensation. The Committee amended the bill to delete the provision which would have the Attorney General defend suits brought against V. A. physicians, dentists or nurses for alleged malpractice acts.

Senator Yarborough (D., Texas) has introduced a bill (S. 2628) providing for the defense of malpractice suits against V. A. physicians, dentists, nurses and pharmacists.

AHA AND MEDICARE: The American Hospital Association has reported that it has heard from 70% of the nation's non-federal hospitals on the question of Medicare and its administration. The report states that 98.5% wish AHA to act as their consultant and Blue Cross as fiscal intermediary.

HEARD AT THE ANNUAL MEETING: A gentleman farmer is one who has time to read all the government bulletins.

It's better to give than to lend—and it costs about the same.

COMMUNITY SERVICE: "Current Currents" salutes Dr. Frank E. Handy of Appalachia, winner of the 1965 Community Service Award presented annually by The Medical Society of Virginia. The Award, made possible by A. H. Robins, was announced during the recent Annual Meeting.

LOBBYING: Reports from Washington indicate that AMA ranked 24th among all lobbyists during 1964—a fact which will undoubtedly amaze many people. "Cope" reportedly led the field with a total expenditure of \$319,824.

It might be well to mention, however, that 1965 promises to be a different story.

AMA-ERF: Your Editors believe that all physicians should be familiar with the American Medical Association Education and Research Foundation. The AMA-ERF was established in January, 1962—succeeding and combining the American Medical Education Foundation and American Medical Research Foundation. Policies and programs of AMA-ERF are formulated by a Board of Directors elected annually by and from the membership of the Board of Trustees of AMA. Among its six specific programs, we call attention to the following:

Funds for Medical Schools: Physicians may contribute to medical schools through the Foundation in two ways. Some designate a specific school to receive their donations. Others give to medical education in general. In the latter case, funds are distributed equally among the country's AMA-approved medical schools. Since 1952, physicians, through the Foundation, have contributed \$15.4 million. Since 1955, the entire physician population has contributed an additional \$35.6 million directly to the schools.

Medical Education Loan Guarantee Program: To assist young people in the financial aspects of their training, the AMA in 1962 launched its Medical Education Loan Guarantee Program. It is designed as a source of financial assistance to medical students or MD's in internship or residency training who are in good academic standing and demonstrate a need for such assistance. In its first two years of operation, 19,298 loans totalling \$22.3 million were made to 12,000 medical schools and interns and residents in 600 hospitals.

DID YOU KNOW? From the time a drug is discovered in a research laboratory until it is marketed averages five to six years.

To meet the medical needs of passengers and crews on the largest oceanic liners, these ships carry two surgeons, three nurses, and six hospital or surgery attendants.

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Medicare (Lesser Known Provisions of the Bill)

That the Medicare Bill is really an amendment to the Social Security Act and contains important health provisions, other than medical care for the aged, is generally less known and understood by the general public—and even by the medical profession. In an effort to overcome this deficiency, we would like to briefly outline the provisions of the Act and give in some detail the facts about other health provisions.

Public Law 89-97 (Medicare) includes the following: (1) the plan for medical care of the aged; (2) an extension of the Medical Assistance Program (Kerr-Mills); (3) amendments to the public assistance programs; (4) amendments to child health and welfare services; and (5) Social Security benefit changes.

1. *Medical Care for the Aged*—Title XVIII provides protection against the cost of hospital and related care for citizens 65 years of age or over, and a voluntary supplementary insurance plan for protection against the costs of physicians' and other medical and health services not included under the basic plan. Details of this program have been widely publicized and are generally well known. Payments for hospital and medical costs will be made directly through Washington, but the legislation provides for agreements with the states for the use of an appropriate state agency in determining whether hospital or other institutions in the state meet the standards for participation in the program. The state agency will also provide consultation and assistance in establishing "utilization review" staff committees in each institution to review both the quality of care and the length of stay of patients, and will provide

consultation to assist hospitals, nursing homes, and home health programs to participate in the program.

As you know, the State Health Department not only administers the construction funds (Hill-Burton) for hospitals and nursing homes, but it also has the legal responsibility for licensure of these institutions. The Health Department also has a team of nurses, dietitians, administrators, etc., to provide consultation services to hospitals and nursing homes. During the last few years we have been conducting an active program to help nursing homes up-grade the quality of care rendered. The information and capability required for this program is available here, and on August 12, 1965, Governor Harrison designated the State Health Department as the Virginia agency to work with the Social Security Administration in the implementation of Title XVIII.

2. *Extension of the Medical Assistance Program*—The Kerr-Mills Program has been in effect in Virginia since 1964 and has been administered by the State Welfare Department. Title XIX of the Medicare Bill extends and expands the Medical Assistance Program to the aged who are indigent, to needy individuals in the dependent children, blind, and permanently and totally disabled programs, and to persons who would qualify under those programs if in sufficient financial need. Other medically needy children may also be included. Medical assistance under this title must be made available to all individuals receiving money payments under these programs, and the medical care or services available to such individuals must be equal in amount, duration, and scope. Inclusion of the *medically indigent* aged not on cash assistance (welfare) roles is to be optional with each state, but if such a program is initiated, it must include comparable

groups of blind, disabled, and needy children. It is also required that the states must have a flexible income test which takes into account medical expenses and does not have rigid income standards which arbitrarily deny assistance to persons with large medical bills. The provisions of the old Kerr-Mills program will terminate (a) upon adoption of this new program by a state, or (b) not later than December 31, 1969.

One item which cannot be overlooked is contained in the provision that the states will be expected to provide at their own expense, no later than July 1, 1975, for medically indigent persons aged 21 to 65 who cannot qualify for care under the Federally aided medical assistance program. In other words, all medically indigent persons in the state should be eligible for a broad program of medical care by this date.

Under Title XIX the Governor must designate a single state agency to administer the plan but it requires that the determination of eligibility for medical assistance shall be made by the state agency administering the old age assistance (welfare) program. As stated above, the Kerr-Mills program to date has been administered by the State Department of Welfare and Institutions. As of this writing, the Governor has taken no official action in designating the agency to carry out the provisions of the new Title XIX.

3. *Amendments to the Public Assistance Programs*—Changes in this section are principally for current welfare programs. Of interest to the medical profession, however, is the removal of the exclusion from Federal matching in the old age assistance and medical assistance for the aged program for individuals who are patients in institutions for the treatment of tuberculosis or a psychosis. P.L. 89-97 allows Federal matching for care in tuberculosis or mental institutions; previously such a patient could receive needed care for a limited period only in a general hospital. The law further stipulates that there must be improvement in the quality of care provided for mental patients and

states will receive no additional Federal funds under this provision unless they increase state expenditures for mental health purposes. (In Virginia the four tuberculosis hospitals operated by the State Board of Health are accredited by the National Joint Commission on Accreditation.)

4. *Amendments to Child Health and Welfare Services*—These amendments are of prime importance to the Health Department. The basic provision is a step-up of \$5 million each year until 1970 (when the total reaches \$60 million per year) in the amounts available for maternal and child health services and for crippled children's services under current authorizations. As you know, these services are integral parts of the Health Department program. In order to accept these additional funds, however, matching state funds must be appropriated, and a request for these was included in the Health Department budget request for 1966-1968.

Of interest is the requirement that the states must extend the provision of these services to the entire state by July 1, 1975. As you know, our Crippled Children's Program is state-wide at present, so there is no difficulty here. Our program for Maternal and Child Health services (principally hospitalization for complicated pregnancies and premature and sick infants) is not state-wide; it does not include the seven independent cities and two counties which do not belong to the cooperative state-local plan for the operation of the local health departments. If the General Assembly provides the additional funds requested for Maternal and Child Health Services for 1966-1968, the State Health Department will be able to extend the MCH program to the areas not now covered.

The Child Health and Welfare Amendments contain three additional provisions of note.

First, for training personnel under the Crippled Children's Program, the bill authorizes \$5 million for 1967, \$10 million for 1968, and \$17.5 million for each succeeding

fiscal year for grants to institutions of higher learning to train professional personnel for health and related care of crippled children, particularly mentally retarded children and children with multiple handicaps.

Second, a *new* program of health care for needy children authorizes a five-year program of special project grants to provide comprehensive health care and services for children of preschool or school age, particularly in areas with concentrations of low income families. Appropriations for this program start at \$15 million for 1966 and go to \$50 million for 1970. Grants are available to state health agencies, to any school of medicine, and any teaching hospital affiliated with such a school, to pay not more than 75% of the cost of the program. The projects would be required to provide screening, diagnosis, preventive services, treatment, correction of defects, and after-care including dental services, but treatment, correc-

tion of defects, and after-care would be limited to children in low income families. In addition, the Act provides for grants for studies of resources, methods, and practices for the prevention and diagnosis of emotional illness in children and for treatment and rehabilitation of emotionally ill children.

The third item relates to efforts to combat mental retardation. Grants totaling \$2,750,000 for each of two fiscal years are authorized to assist the states in implementing and following up plans to combat mental retardation.

5. *Social Security Benefit Changes*—There are numerous amendments for Social Security beneficiaries. The two of most interest to the medical profession are the increases in the monthly benefits from a minimum of \$44 to a maximum of \$127, and the inclusion of self-employed physicians and interns.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Sept. 1965	Sept. 1964	Jan.- Sept. 1965	Jan.- Sept. 1964
Brucellosis -----	1	2	8	16
Diphtheria -----	0	0	0	0
Hepatitis -----	81	40	607	428
Measles -----	33	22	4350	13159
Meningococcal Meningitis ----	3	0	54	44
Meningitis (Aseptic) -----	3	1	12	10
Poliomyelitis -----	0	0	0	0
Rabies (In Animals) -----	9	25	284	255
Rocky Mt. Spotted Fever-----	5	3	39	34
Streptococcal Infections -----	490	417	8495	8195
Tularemia -----	2	1	8	5
Typhoid Fever -----	4	1	8	11

Transfusion Therapy in Hemorrhagic Disorders

Hemostasis is the arrest of bleeding by physiological mechanisms. Basically these are three in number: vascular, platelet or clotting. Abnormal bleeding may occur as the result of interference with any, a combination, or all of these components. In addition to the congenital states, some clinical conditions in which one may see disordered hemostasis are liver disease, multiple myeloma, macroglobulinemia, obstetrical complications, a variety of malignancies, and post operatively, especially following pulmonary and prostate surgery.

In general, the most effective therapy for the control of bleeding is the transfusion of normal whole blood or plasma. Therapy with parenteral vitamin K is recommended specially for the treatment of hemorrhage associated with malabsorption syndromes, obstructive jaundice or for reversal of the anticoagulation from indirect-acting drugs. The use of specific plasma fractions or specific drugs (such as epsilon amino caproic acid) while showing some promise is still largely investigative, necessitates sophisticated diagnostic techniques, and is not without some hazard. Therefore transfusion presently remains as the treatment of choice.

Intelligent therapy of bleeding disorders presupposes a knowledge of the *in vitro* and *in vivo* survival of clotting factors as well as the lowest adequate plasma levels required to produce hemostasis. The persistence of platelet and plasma clotting factors *in vitro* depends on methods of collection and storage. *In vivo*, the life of the factor involved varies from a few hours to several days. Therefore, the type of transfusion therapy (i.e. fresh or frozen plasma, whole blood, etc.) to be selected depends upon the specific factor involved. In some conditions only one factor is deficient while in others multiple deficiencies are present.

It must be appreciated that the use of transfusion therapy is not without certain accompanying hazards. Statistically, reactions occur with a frequency of one in 200 transfusions. Circulatory overload and homologous serum jaundice must also be considered. Therapy of bleeding disorders with blood and blood products presents additional, as well as, other unique problems. These include development of acute hemolytic anemia due to high titre of isoagglutinins, development of circulating anticoagulants following massive transfusions, and increased capillary permeability due to the use of non-autologous plasma. Until specific clotting factor concentrates or other therapeutic measures are available to offset these disadvantages, plasma is the only current agent effective in the treatment of some bleeding disorders. Plasmaphoresis may offer some advantages in the treatment of hemorrhagic disorders since the therapeutic potential of certain individual donors may be more fully characterized and allow for more frequent plasma donations.

Certain generalizations regarding transfusion therapy are justified even though the response to treatment varies between patients or after repeated transfusions in the same patient. As a general rule, when any of the hemostatic components falls to a level below 10% of the accepted normal value, spontaneous hemorrhage results. Therefore, therapy should be directed toward the attainment of a value of 20% or greater.

In idiopathic and secondary thrombocytopenia, sufficient fresh platelet-rich plasma or platelet concentrates should be given to raise the platelet count to 80,000 per cu. mm. In the case of immunologic thrombocytopenia, this may be impossible to achieve.

In acquired hypofibrinogenemia, maintenance of a plasma fibrinogen concentration of 100 mg. per 100 ml. of plasma may be necessary. A concentration between 50

and 100 mg. per 100 ml. of plasma is sufficient to assure hemostasis in bleeding episodes associated with congenital hypofibrinogenemia.

For the treatment of all other clotting factor deficiencies, sufficient plasma should be given to raise the concentration of the deficient factor to 20% or greater of normal. Initially, in adults, 1,000 ml. of fresh blood or plasma is usually required to attain minimum hemostatic levels. In some instances it may be necessary to resort to clotting factor concentrates to achieve higher levels. The use of subsequent transfusions depends on the patient's response and the *in vivo* survival time of the deficient factor. The use of partial exchange transfusions is often of benefit in replacing the deficient clotting factor or to reduce the titer of a circulating anticoagulant.

The correction of Factor V or Factor VIII deficiency, requires the use of fresh, freshly lyophilized or freshly frozen plasma stored at -20°C . The latter preparation loses 50% of its activity in 3 weeks. For therapy of deficiencies of all other factors, plasma stored at 4°C for 21 days or frozen at -20°C for periods up to several months is satisfactory.

The management of hemorrhage caused by circulating fibrinolysin is worthy of special mention. In many instances the use of blood or plasma transfusion or fibrinogen preparation may lead to an exacerbation of bleeding due to the overutilization of clotting factors. Initial efforts may be directed toward the inhibition of the fibrinolytic process by epsilon amino caproic acid (EACA) given in a dosage of 2-4 gms. i.v. Until a specific agent is generally available, the use of steroids in high dosage is suggested and often is helpful. An important adjunct to the initial therapy is the restoration of

blood volume and normal levels of fibrinogen and other clotting factors with concentrated fibrinogen and fresh whole blood.

The liberation of thromboplastic materials into the blood stream, e.g. associated with abruptio placentae, effects an increased utilization of coagulation factors. Hence, in treatment, fresh frozen or lyophilized plasma and fibrogen should be administered for the reasons outlined earlier. At the same time, the source of tissue thromboplastin should be removed. If such tissue (i.e. placenta) is not removed, the fibrinogen transfused, and with it other plasma coagulation factors and platelets, will be utilized rapidly. This will in turn increase the danger of serious bleeding in such patients.

Until more specific measures are available, the use of plasma, plasma fractions and platelet concentrates is of primary importance for the treatment of hemorrhagic disorders. It must be remembered that the complete management of hemorrhagic disorders also requires ancillary and supportive measures.

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Editorial

Two to a Bed

TWO MATTERS of medical interest, one American and the other British, appeared early last August in the *London Daily Telegraph*. The first dealt with the passage, and subsequent signing by President Johnson, of the Medicare bill. The second was concerned with the report of a "delegation of matrons and nurses" who protested to Mr. Robinson, the British Minister of Health, about the ill effects for patients and staff alike which resulted from the current overcrowding of Britain's hospitals.

According to this group "Two patients to a bed is common in Britain's 3,000 State hospitals." The delegation explained that "in many hospitals an out-patient is lodged in an in-patient bed while the latter spends the day sitting in a chair or walking about."

A recent survey by the Royal College of Nursing of 58 hospitals scattered throughout the United Kingdom disclosed that in 32 hospitals "two to a bed" was common practice. All 58 had installed extra beds in their wards. The *Nursing Times*, the College's journal, stated that "the solution to the problem was not simple."

The latter statement is unquestionably true. Seventeen years under the National Health Service has brought British medicine to this sad state and there is every reason to believe it will become worse rather than better. American medicine will doubtless follow the same down-hill course if our politicians continue to adopt the worst rather than the best legislation that originates overseas.

Two to a bed! Perhaps that was one of President Johnson's long range plans when he coined the term "Great Society".

H. J. W.

Calendar of Events

WEEKLY CONFERENCES FOR PRACTITIONERS—Fall Series—Through December 2, 1965 (excluding Thursday, November 25) Thursday afternoons 2-4 P.M., Barringer III Conference Room—University of Virginia Medical School.

WESTERN HEMISPHERE NUTRITION CONGRESS, Edgewater Beach Hotel, Chicago, Illinois, November 8-11.

MEDICO-LEGAL WORKSHOP—Lynchburg General Hospital—November 18. Sponsored jointly by VAGP, Chief Medical Examiner and the Medical College of Virginia.

VIRGINIA HOSPITAL ASSOCIATION, Marriott Twin Bridges, Arlington, Virginia, November 18-19.

DIAGNOSTIC PROCEDURES IN RESPIRATORY DISEASES—November 19-20—University of Virginia School of Medicine, Charlottesville, Virginia (Joint Sponsor—Virginia TB and Respiratory Association).

AMA NATIONAL SYMPOSIUM ON VENEREAL DISEASE CONTROL, Drake Hotel, Chicago, November 20.

MEDICO-LEGAL WORKSHOP, TIDEWATER MEMORIAL HOSPITAL, Tappahannock—January 20, 1966.

ANNUAL MEETING, VIRGINIA COUNCIL ON HEALTH AND MEDICAL CARE, Richmond, Virginia—January 22, 1966.

MEDICAL SEMINAR FOR PHYSICIANS—The Homestead, Hot Springs, Virginia—Sponsored by University of Virginia School of Medicine, January 27, 28, 29.

NATIONAL VOLUNTARY HEALTH CONFERENCE—Continental Plaza Hotel, Chicago, Illinois—February 16, 17, 1966.

NORTHERN VIRGINIA CLINICAL ASSEMBLY—Marriott Key Bridge Motor Hotel, Arlington—March 16, 1966.

Annual Meeting—The Medical Society of Virginia.

As we go to press, the annual meeting of The Medical Society of Virginia at the John Marshall Hotel, Richmond, has just been completed. There was a registered attendance of 1,025, which included 663 physicians, 185 ladies, 166 exhibitors, and 11 others. We feel there was a much larger attendance but some of the members just didn't make it to the registration desk.

Dr. Alexander McCausland, Roanoke, was installed as president, succeeding Dr. McLemore Birdsong, Charlottesville. Dr. K. K. Wallace, Norfolk, was elected president-elect, and vice-presidents are Drs. Hunter

H. McGuire, Jr., Richmond; George B. Kegley, Bland; and William Grossman, Petersburg. Robert I. Howard was re-elected secretary-treasurer. Dr. W. Callier Salley, Norfolk, was named speaker of the House of Delegates with Dr. Thomas S. Edwards, Charlottesville, vice-speaker. Dr. Mallory S. Andrews, Norfolk, was named a Councilor for the second district, succeeding Dr. Wallace. Councilors from the odd numbered districts were re-elected as follows: Dr. F. Ashton Carmines, Newport News; Dr. Thomas W. Murrell, Jr., Richmond; Dr. W. Nash Thompson, Stuart; Dr. Dennis P. McCarty, Front Royal; and Dr. W. W. Walton, Pulaski. Those from the even numbered districts hold over for another year

and they are (including Dr. Andrews) Drs. A. Tyree Finch, Farmville; Harry B. Stone, Jr., Roanoke; Guy F. Hollifield, Charlottesville; and Michael A. Puzak, Arlington. Dr. Vincent W. Archer, Charlottesville, was re-elected a Delegate to the American Medical Association, with Drs. W. Linwood Ball, Richmond, and Allen Barker, Roanoke, holding over for another year. Dr. Richard E. Palmer, Alexandria, was re-elected alternate, with Drs. W. Callier Salley, Norfolk, and Russell Buxton, Newport News, holding over.

Dr. Frank E. Handy, Appalachia, was the recipient of the 1965 Community Service Award presented by the Society.

The First Award for Scientific Exhibits was presented to Dr. Cary Suter and Mr. Melvin C. Shaffer, Richmond, for their exhibit on The Use of TV Tape Recording in Teaching Neurology. The Second Award went to Drs. DeWitt E. DeLawter, James M. Moss, Sidney A. Tyroler, and Edward J. Gallagher, Washington, for their Aids in Diabetic Management. Drs. Cecil B. Jacobson and I. R. Telford, Washington, received the Third Award for their exhibit on Cytogenetic Techniques.

Golf winners for lowest gross were Dr. William T. Tucker, Richmond, first; Dr. R. Finley Gayle, III, Richmond, second; Dr. W. C. Gregory, Winchester, third; and Dr. Michael A. Puzak, Arlington, fourth. Low net—Callaway System Handicap—went to Dr. A. B. Gravatt, Jr., Kilmarnock, first; Dr. J. T. Hearn, Jr., Penn Laird, second; and Dr. Wellford C. Reed, Richmond, third.

The next annual meeting of The Medical Society of Virginia will be held in Williamsburg, November 5-8, 1966. It's not too early to begin making your plans to attend.

New Members.

The following new members were received into The Medical Society of Virginia during the month of September:

Walter S. Barton, M.D., Wytheville
Aaron Lynn Beavers, M.D., Roanoke

James McClay Close, M.D., Falls Church
John Calhoun Graham, Jr., M.D.,
Newport News
Claude Alden Harvey, M.D., McLean
Young Sup Kang, M.D., Roanoke
Hyung Rin Kim, M.D., Galax
Robert James Knerr, M.D., Vienna
Scheldon Kress, M.D., Springfield
David L. Lewis, M.D., Roanoke
James W. Pancoast, M.D., Richmond
Gerrit Peereboom, M.D., Fairfax
Frank Michael Shepard, M.D.,
Charlottesville
Richard Austin Wetzels, M.D.,
Charlottesville

Augusta County Medical Society.

Dr. H. McKelden Smith, Staunton, has been installed as president of this Society. Drs. C. W. Caulkins, Waynesboro; James Higgs, Staunton; and Thomas Bell, Staunton, are vice-presidents; Dr. Nancy Garrett, Fishersville, secretary; and Dr. Randolph Penn, Waynesboro, treasurer.

Prince William County Medical Society.

Officers for this Society for 1966 are: Dr. Claude K. Hylton, Manassas, president; Dr. Andrew Scheele, Manassas, vice-president; and Dr. Dieter F. von Oettingen, Manassas, secretary-treasurer.

Returns to Old Job.

Dr. Paul W. Bowden, Richmond, who resigned as chief of preventive medical services of the City Health Department in 1958, has accepted the position of chief of the bureau of disease control. Since 1958, Dr. Bowden has been doing clinical research with the A. H. Robins Company.

Dr. Harold M. Nemuth,

Richmond, recently attended the second Australian Medical Congress in Perth.

There was also a family reunion for the Nemuth family as Mrs. Nemuth is a Western Australian and she and their three children accompanied the doctor on the trip.

Mrs. Nemuth's parents have a farm in the south of Western Australia.

Dr. William T. Thompson,

Richmond, was recently elected to the Board of Trustees of Davidson College.

Dr. Paxton P. Powers,

Staunton, has been elected president of the Staunton-West Augusta County Unit of the American Cancer Society.

Dr. Donald S. Myers,

Hot Springs, has been honored by the Valley High School seniors. They dedicated the 1965 edition of the school annual, the "Vallescope" to him. The inscription on the dedication page reads: "The Senior Class of 1965 dedicates this Vallescope to Dr. Donald S. Myers of Hot Springs. In this way we express our appreciation for his active interest in our school—an interest that has been especially evidenced in his enthusiastic sup-

port of our athletic program. We feel that he is a good representative of the area's professional and business men who have a genuine concern for our students."

Dr. Robert L. Ozlin,

South Hill, has received his 50-year Masonic Pin at the Free-State Lodge at Kenbridge. He was initiated in this same lodge and has held continuous membership for fifty years.

Dr. Stanley P. Mayers, Jr.,

Has taken over the position of Director of Public Health in Arlington which has been held for 27 years by Dr. Ralph G. Beachley. Dr. Mayers served as a resident in public health and preventive medicine under Dr. Beachley. He has also served as health director of Henry and Patrick counties and the city of Martinsville and was in Richmond with the State Health Department for a year.

Obituaries

Dr. Gerhard Gabriel,

Abingdon, died August 26th after a long illness. He was seventy-three years of age. Dr. Gabriel received his medical degree from the University of Berlin in 1919. He came to Abingdon in 1930 and was associated with the Johnston Memorial Hospital as chief of the x-ray department. Since semi-retirement for the past five years he had been writing for a medical encyclopedia in Germany. Dr. Gabriel had been a member of The Medical Society of Virginia for twenty-four years.

His wife and a daughter survive him.

Dr. Claude Kelso Kelly,

Mechanicsville, died September 8th. He was forty-four years of age and graduated from the Medical College of Virginia in

1946. He had practiced in Mechanicsville for seventeen years and had been a member of The Medical Society of Virginia since 1948.

His wife, three sons and two daughters survive him.

Dr. Albert Adgate Bailey,

Tabb, died September 26th after a long illness. He was seventy-one years of age and a graduate of Johns Hopkins University in 1921. Dr. Bailey practiced medicine for twenty-five years in up-state New York. He had retired as assistant chief of the medical service of the Kecoughtan Veterans Hospital in 1962. He had been a member of The Medical Society of Virginia for fifteen years.

His wife, a daughter and two son survive him.

Dr. Silvia Luik,

Richmond, died September 2nd at the age of forty. She was a native of Estonia and escaped, with her mother, from a concentration camp in Nazi Germany, coming to the United States in 1950. She was a graduate of Goethe University in Germany. Dr. Luik had been a psychiatrist on the staff of Tucker Hospital since 1962. She had been a member of The Medical Society of Virginia since 1961.

Dr. Hill

An associate once said of Lucy Hill, "After you talk to her about a child's most serious problem, it's hard to remember what she said, but shortly the conflict is resolved, and everyone involved seems to feel much better." This oversimplification describes succinctly the effectiveness with which she practiced psychiatry.

The same perseverance and tenacity which marked her later practice were evident in her formal education first at Westhampton College and later at the Medical College of Virginia where she graduated in 1924. Woefully lacking in both moral and financial support from her family, she supported herself by teaching school, sewing, washing dishes, repairing electrical fixtures, and tending a garden plot in a field near her dormitory.

She interned at St. Elizabeth's Hospital in Washington, D. C., and remained for one year's residency before going to New Orleans to practice. In that city she was Director of the Sarah T. Mayo Hospital's Psychiatric Clinic, Medical Director of the Good Shepherd Convent, and visiting psychiatrist at the De Paul Sanatorium, Lake Shore Hospital, and Hotel Dieu.

She returned after twenty-five years of practice

to complete her formal residency training in psychiatry—first at the Medical College of Virginia and subsequently in child psychiatry at Johns Hopkins. She worked in the child Guidance Clinic, Falls Church, Virginia, and finally on her return to Richmond became the Director of the Psychiatric Clinic for Children of the Medical College of Virginia. She was also on the staff of the Memorial Guidance Clinic and, in addition, served part-time in the Division of Alcohol Studies and Rehabilitation. She was earlier an Assistant Professor of Psychiatry at Louisiana State University and at the time of her death was Assistant Clinical Professor of Psychiatry at the Medical College of Virginia. The author of several papers on neurological as well as psychiatric subjects, she was also on the staffs of Westbrook Psychiatric and Richmond Memorial Hospitals. In addition to the Academy of Medicine, she was a member of state and national medical and psychiatric associations.

Her spare time, particularly on weekends, was devoted to the rolling acres and registered Herefords of her beloved Indian Trace Farm in Madison County. She was buried there in the family cemetery June 21st.

In many ways Lucy Scott Hill was remarkable. Though childless, she was capable of a wealth of maternal affection. Though by nature she was quiet, friendly and unassuming, yet she could incisively correct the most wayward parent in no uncertain terms with her accurate and provocative, though sometimes painful, insights marking her as the competent psychiatrist she was, albeit almost fleetingly reminding one of her spinsterhood, for she was human. Her boundless energy in the pursuit of her practice belied her years, and it is felt that in deference to a beloved and long to be remembered friend and colleague, an accurate recount of the passage of time should be tastefully omitted.

BE IT RESOLVED, THEREFORE, that these sentiments be spread upon the minutes of the Richmond Academy of Medicine and a copy be sent to the family.

MERRITT W. FOSTER, JR., M.D.



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BALTIMORE, MARYLAND 21201

VIRGINIA MEDICAL MONTHLY

(Founded by Landon B. Edwards, M. D., April, 1874)

PUBLISHED MONTHLY BY THE MEDICAL SOCIETY OF VIRGINIA

4205 DOVER ROAD, RICHMOND, VIRGINIA 23221

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Annual Subscription—\$2.00

Single Copies—25¢

TABLE OF CONTENTS

GUEST EDITORIAL

"The Farmer Had a Lung . . ."—*Charles P. Barnett, M.D.* 565

ORIGINAL ARTICLES

Presidential Address—*McLemore Birdsong, M.D.*----- 568

Physicians of the Old Dominion and the United States
Navy—*Robert Edgar Mitchell, Jr., M.D.*----- 571

The Problems of Employee Absence—*John T. Jarrett, M.D.* 576

Is the Colon the Ideal Esophageal Substitute—*William Stokes
Houck, M.D., and Owen Gwathmey, M.D.*----- 579

CLINICOPATHOLOGICAL CONFERENCE

Chest Pain, Collapse and Coma in an Alcoholic----- 583

DIAGNOSTIC LABORATORY MEDICINE

Blood Ammonia—*C. R. Burkhart, M.D.*----- 590

PUBLIC HEALTH

A Proposal for the Use of Surplus Tuberculosis Sanatoria
Beds ----- 593

CORRESPONDENCE

Cigarette Smoking and Cancer of the Bladder—
Leo I. Hallay, M.D.----- 595

THE MEDICAL SOCIETY OF VIRGINIA

Minutes of the Annual Meeting----- 596

WOMAN'S AUXILIARY ----- 620

EDITORIAL

New President—*William H. Kaufman, M.D.*----- 622

NEWS ----- 624

OBITUARIES ----- 627

INDEX TO VOLUME XCII----- 629

The MONTHLY is not responsible for the opinions and statements of its contributors

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Second Class Postage paid at Richmond, Virginia.

INDEX TO ADVERTISERS—Page 56

Guest Editorial . . .

"The Farmer Had a Lung . . ."

"**F**ARMER'S LUNG" is an acute respiratory illness of lifelong farmers occurring within a few hours after exposure to moldy hay.

Since Campbell's original report from England in 1932, well over 400 cases have been reported in many countries, including the United States, the British Isles, Switzerland, Norway, Sweden, Denmark, Finland, France, Germany and Iceland. In this country reports so far have been chiefly from Wisconsin, with occasional ones from New England and Pennsylvania.

Fuller divided the disease into three phases:

(1) The acute isolated attack; (2) subacute and more chronic conditions which show a spontaneous tendency to recover; and, (3) the chronic and irreversible stage with fibrosis and emphysema.

The acute attack ensues within a few hours of exposure to moldy hay, grain or silage in a closed, poorly ventilated barn. Dyspnea is always present; dry cough, chills, fever, night sweats and weight loss occur in varying degrees. Pain and hemoptysis are rare. Diffuse rales without consolidation are found but wheezing is absent, an important point in differentiating this disease from asthma. Routine laboratory studies may show some polycythemia, slight or absent leukocytosis, rare eosinophilia, and an elevated sedimentation rate. Sputum cultures are mixed and not characteristic, usually representing the fungal flora of the barn involved. Skin tests for fungi are negative. The tuberculin test is negative during the acute phase. So characteristic is the tuberculin anergy that some would doubt the diagnosis of acute farmer's lung disease in a patient with a positive tuberculin test.

The roentgenogram, in the acute stage, shows fine to coarse granular mottling, chiefly at the lung periphery. In contrast to that in miliary tuberculosis, this has been likened to a "sand storm" rather than a "snow storm". Hilar adenopathy is absent, which aids in differentiating this disease from sarcoid. In some instances chest films may be negative.

Lung biopsies show an acute granulomatous interstitial pneumonitis. The granulomata are composed of epithelioid cells and giant cells without caseation. Alveolar walls are infiltrated with lymphocytes, plasma cells and various histiocytes. Refractile foreign material has been seen in some cases but no organisms are identified. Histologic distinction from sarcoid is not possible.

Pulmonary function studies show reduction in pulmonary diffusing capacity with arterial hypoxia, increased residual volume and functional residual capacity, as well as a marked reduction in vital capacity.

The disease runs a course of several weeks providing there is no further exposure. Spontaneous recovery is the rule. Repeated exposure in a sensitized individual may lead to irreversible changes with fibrosis, emphysema and right heart failure.

The acute phase responds well to corticosteroid therapy. The only real prophylaxis is avoidance of exposure to moldy hay dust. Severely affected farmers have been forced to change their occupation.

This condition is to be distinguished from "silo-filler's" disease. While the symptomatology of the two may be somewhat similar, the history and etiology are quite distinct. "Silo-filler's" disease is due to the formation of nitrogen dioxide by the fermentation of fresh silage. This irritant gas is present for only a week or ten days after filling of the silo. If more than ten days have elapsed since storage, "silo-filler's" disease may be ruled out. Rankin has used the facetious term "silo-emptier's" disease for farmer's lung to emphasize the difference in the two processes.

The relationship of farmer's lung symptoms to moldy hay, silage and other moldy grains was noted by the earliest reporter, Campbell, and by Icelandic farmers long before that. The disease is seasonal, the greatest incidence being from October to April or May. A wet summer with subsequent storage of wet hay favors mold growth. The tight, dark ill-ventilated barns and silos in Southwest England, Wisconsin and Scandinavia were built to withstand the severe winters. Such conditions favor development of extreme concentrations of mold spores and dust. The disease is virtually unknown in drier climates.

Although originally felt to be a mycotic infection, most writers soon expressed doubt that farmer's lung was a true infection and favored a hypersensitivity reaction to molds, mold products or organic breakdown products.

Pepys in England, in 1961, using the Ouchterlony technique, demonstrated precipitins in the sera of farmer's lung patients against extracts of moldy hay. Gregory then showed that moldy hay associated with farmer's lung developed higher spontaneous temperatures, about 55-60° C, a more alkaline pH and a higher concentration of thermophilic actinomyces than other moldy hays. These thermophils grew poorly at the usual incubator temperatures but flourished at 55-60° C. Pepys then studied the precipitin reactions between the farmer's lung sera and extracts of the various thermophilic molds described by Gregory. He found that these sera reacted best against *Thermopolyspora polyspora*; indeed, reactions were as good as against extracts of moldy hay. Moreover, he was able to produce typical symptoms in farmer's lung patients by using aerosols of *T. polyspora*. Similar experiments had been performed previously with aerosols of moldy hay.

Lung cultures of biopsy material had been uniformly negative until 1964 when Wenzel et al., of the Marshfield Clinic, Wisconsin, recovered *T. polyspora* from material obtained by lung biopsy during the acute

phase. This was grown successfully only at 55-60° C. It was shown to have the same antigenic determinants as the *T. polyspora* which Gregory had obtained from farmer's lung moldy hay.

T. polyspora does not propagate in the lung but acts as a sensitizing antigen. Previous failure to recover the mold is attributed partly to poor growth at conventional temperatures, and partly to the fact that the spores are destroyed by the antigen-antibody reaction within the lung. This latter possibility plus the spores' small size (1 micron) also explains the failure to demonstrate the organism histologically. The Marshfield Clinic group routinely biopsies suspected cases during the acute phase. Since instituting cultures at high temperatures, *T. polyspora* has been recovered from a number of other biopsies.

The extent of the disease in this country, outside of Wisconsin, is unknown. In a recent survey, involving 16 clinics, sera from 312 farmers with respiratory symptoms were assayed by the Marshfield Clinic group. Forty-one sera (13%) had positive precipitin tests with mold hay or *T. polyspora* extracts. It is by no means certain that these patients actually had farmer's lung, since specific clinical and x-ray features were not sought after. Pepys has shown that there is considerable cross-reactivity of farmer's lung sera with a variety of fungal and organic antigens; conversely, moldy hay precipitins were found in 32% of sarcoidosis patients, irregularly in 12% of the patients with asthma and chronic bronchitis, and in 7% of normal maternal and cord bloods. Inhibition tests, using extracts of moldy hay or of *T. polyspora*, will serve to distinguish cross-reacting precipitins from those of moldy hay or *T. polyspora*. No doubt other thermophilic actinomycetes may serve as sensitizing antigens.

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CHARLES P. BARNETT, M.D.

*The Geisinger Medical Center
Danville, Pennsylvania*

Presidential Address

McLEMORE BIRDSONG, M.D.
Charlottesville, Virginia

WILL DURANT, the historian, has written, "In all civilized lands and times, physicians have rivaled women for the distinction of being the most desirable and satirized of mankind." This is true also today. Read the newspaper reports of labor union meetings; listen to radio or television comedians and you will see that modern physicians are kidded and unjustly criticized. Nevertheless, at the same time there are many writings and programs that laud and glorify the medical profession. Our public image as physicians is still good, even though it has taken some very nasty blows in the past few years. You often hear an individual giving organized medicine a "hard time", but it is very seldom that this criticism is aimed at one's own physician. The individual physician is still loved and respected by his own patients, but as a group our image has suffered. In my opinion this is because we have done a very poor job of public relations. We as physicians can do more to influence public opinion than most any other group because we are respected as individuals and in our practice we really know our patients and should be in a position to present the "medical" point of view in a manner that will convince the individual of its value. Many physicians say they do not have time to do this, but it is these same physicians who scream the loudest when various bills or programs are passed that they do not like.

The professional duties of a good physician encompass three large fields of responsibility: first, science and second, the art of the practice of medicine. These combine to help render the best medical care to his patients. Third is the obligation as an in-

formed citizen to play an active role in civic, religious, and educational activities in his community.

Most of our physicians do a very good job of the first and second of these responsibilities, but many of our members leave much to be desired as far as the third responsibility is concerned—that is, the obligation to play an active role in civic, religious, and educational activities. I am well aware of the extremely heavy load of medical responsibilities that is carried by many of you but I am also sure that with proper planning many of us could find time to be good citizens by giving of our time and talents to help our community become a better place in which to live. In doing this, we will become the leaders that influence the social changes in our community, our state and our nation. Our world as we knew it a few years ago is changing fast and it is time that we as individuals use whatever talents we have to guide this change in the direction we believe to be best for our families and for our fellow men.

Organized medicine has been accused of being against almost every program that has been presented to our people. This is not true. Local medical groups, state medical societies and national medical groups such as the A.M.A. have proposed many programs for the good of medicine and the good of mankind. There are programs that have been considered wrong by medicine and we have opposed them. If they are truly thought to be wrong they should be opposed. For this we have received much bad publicity and medicine has been labeled as "reactionary". It is my strong belief that we must be true to our principles and also we must be fair to our fellow men, and it is time that medicine takes an active role in molding public opinion and giving positive ideas for pro-

Delivered at Annual Meeting of The Medical Society of Virginia, Richmond, October 9-12, 1965.

grams to better solve some of the many medical socio-economic problems the world is facing today. Men and women of medicine, if you do your part this can be accomplished and we can continue to give our patients the best medical care in the world under our system of private practice. We must be aware of the socio-economic impact of illness on our patients and on our community and also be informed of what the potential effect of government sponsored programs may have on our present practice of medicine.

I am proud of the fight that has been waged on the various bills that have been before the Congress of the United States. While we have lost in some of our attempts to defeat some of the legislation, we have caused radical change in some of the original bills to the point where they are much more acceptable to our American way of life. We should continue to work to modify those aspects of federal legislation that seem to be contrary to what we believe to be best for the good of our people.

Since the beginning of the twentieth century medical knowledge has advanced with incredible speed. Medicine is no longer simply the giving of the best care possible to our patients, although this is still the ultimate goal. Our profession has been, by necessity, segmentalized. We have those who spend all or a great part of their time trying to push back the wall of ignorance by research. These are the people who have made it possible for the practitioners of medicine to prevent such diseases as poliomyelitis, smallpox, and yellow fever, to name a few, and have given us potent drugs, such as the sulfonamides, penicillin, steroids, insulin, thyroid extract, and many others. Many of us accept these accomplishments without realizing the many hours of frustrating work that have gone into making these possible. Our research colleagues are indispensable.

The teachers of medicine are also an important link in our system of medical care.

Medical education has for centuries been going through evolutionary changes with the goal of turning out a better product. It is doing the same thing today. Different techniques have been tried and curriculum changes have been made. Some of the changes have been good and have been retained, but others have been found to be lacking and have been discarded. There is a continuing effort to improve the learning process. The purpose of medical education is three-fold: first, and most important, is the training of the individual to be the best possible practitioner of medicine. This consists of teaching him the basic facts of human biology, to instruct him in the nature of disease, to instill in him the intellectual honesty and desire to continue his quest of knowledge. Second, the purpose of medical education is to stimulate those physicians, who by their nature are more curious, to become the research men who have done so much to make our practice of medicine what it is today. The third purpose is to develop teachers of medicine to continue our effort to train the best possible physicians.

The main core of medicine are men who translate the knowledge of medicine to the benefit of the individual patient. These are the general practitioners and the various specialists. Here again there is a separation or segmentation of our profession. There is so much information available now that it is impossible for one individual to know all of the latest advances or to be trained in the many complicated techniques. This is the reason for the specialist. He is invaluable in our system of excellent medical care practiced in our country today.

The General Practitioner, the G.P., the Generalist, or the term I like best, the Family Physician, is the bulwark of the medical care of the world. He is in the front line and it would be impossible for the excellent care that is enjoyed by our people to be implemented without this group of dedicated physicians. In recent years their number has dwindled. This is distressing, and

attempts at all levels of education have been taken to reverse this trend, and the results of these endeavors are beginning to be felt. It must be successful, as our system of the practice of medicine cannot flourish without the family physician.

I bring the segments of our total medical force to your attention to make this point: There has certainly been underground uneasiness or discontent between the researchers, the teachers, the specialists, and the family physicians. We must remember we are all on the same team. Each of us has a job to do and we are interdependent and important to each other.

If we are to accomplish what we wish, we must not be a "House Divided". In the A.M.A. News, dated September 14, 1964, Dr. Norman A. Welch, who had been the President of the A.M.A. and had just recently died, was quoted in an editorial. What

he said is what I have been trying to convey to you today. Since he has done it so well, I will close my remarks by reading one paragraph of the editorial, quoting Dr. Welch: "I would appeal to those who represent specialty organizations, to the individual specialist, to the general practitioner, to those in administrative medicine, in government service, and to medical educators, to impress upon your members and colleagues that if medicine is to serve the public in the future to the high degree it has in the past, it must be united, standing strong and firm with a heart and a conscience tuned to public need, with a respect for the rights and privileges of the individual, and with abiding faith in our free competitive system of medical practice".

*University of Virginia Hospital
Charlottesville, Virginia*

What Cures Acne?

Acne, the old scourge of teenage complexions, may be helped as much by the patient's cordial relationship with his doctor as by treatment with antibiotics. That's one of the findings of research reported in the September 13th Journal of the American Medical Association.

Tests of two antibiotics on 45 college and nursing students showed that their skin troubles came and went irregularly, seemingly regardless of whether drugs were administered. Sometimes a patient's skin cleared up when all he or she had been given was a placebo, or dummy capsule. In fact, "significant improvement" was noted in 24 per cent of patients when given placebos.

"It is clear that sympathetic and enthusiastic physician-patient relationships can markedly benefit many acne patients even in the absence of active medication," Robert G. Crounse, M.D., of the University of

Miami School of Medicine, Coral Gables, Fla., is author of the report.

As for the antibiotics, results of his study do not support the use of systemic antibiotics in treating acne vulgaris. This varies with the widely held belief that antibiotics are an effective acne treatment. In his investigation, there were no significant statistical differences in results obtained with one or the other of the antibiotics or the placebos.

Although some good results were obtained with one antibiotic, demethylchlortetracycline, Dr. Crounse urged caution in interpreting these. In 8 of 15 "excellent" and "good" responses to antibiotic treatment, the patients developed undesirable photoreactivity to sunlight. The other antibiotic tested was tetracycline hydrochloride.

The relatively high cost of antibiotics, their frequent ineffectiveness, and the occasional dangers of sensitization should be weighed in treating each individual patient.

Physicians of the Old Dominion and the United States Navy

ROBERT EDGAR MITCHELL, JR., M.D.
Richmond, Virginia

VIRGINIA PHYSICIANS have long been intimately connected with the Medical Department of the United States Navy. Since 1965 is the Golden Anniversary Year of the United States Naval Reserve, and since a native Virginian, Dr. H. Lamont Pugh, who was one of the Navy's outstanding Surgeons General, is still very much alive and active in medical and philanthropic affairs, a salute is due all Navy physicians at this time.

In the 1854-1858 Navy Register there were 35 Navy surgeons, passed assistant surgeons, and assistant surgeons from the State of Virginia. (The term "Medical Corps" as such dates from 3 March 1871, when it was first mentioned in an Act of Congress.) The Navy surgeons strength totaled 148, so Virginia had a large portion. At this time Surgeon Gustavus R. B. Horner from Virginia was one of the two or three best known Navy surgeons. He was author of *Diseases and Injuries of Seamen*, a standard treatise for many years and a major accomplishment at that time.

In the 1905-1906 Navy register there were 35 medical officers from Virginia, including Rear Admiral Presley M. Rixey, MC, USN, generally recognized as one of the most outstanding Surgeons General. There was also Rear Admiral Ammen Farenholt, MC, USN, who was an Assistant Chief of BUMED in the 1930's.

In the 1918-1919 Navy Register there were 63 medical officers listed as from Virginia, including Admiral Grayson, physician to President Wilson.

There were probably 250 or more medical officers from Virginia in the Navy by 1945. Of the 1919 list, Dr. James D. Gatewood

became an admiral and Dr. James S. Taylor was a division chief in BUMED. Most of the others later became general officers. Rear Admiral Carl Broadus, MC, USN, was Fleet Medical Officer, Pacific Fleet after WW II.

There were 13 others in the Corps from Virginia in 1938 in the rank of Lieutenant Commander or below, including Dr. Charles B. Stringfellow and Dr. James B. Shuler, MC, USN.

The Navy Registers for the later years in the 40's and thereafter do not give the state from which the officer was appointed. It is estimated that there were about 250 medical officers from the State of Virginia on active duty in 1945, including perhaps 25-30 of the names on the Register for the previous years listed above. The most important was Rear Admiral H. Lamont Pugh, MC, USN, who commanded the largest hospital, at San Diego, in World War II and later became one of the Navy's outstanding Surgeons General.

There are 44 graduates of the University of Virginia School of Medicine on duty in the Navy at the present time. We were unable to get the exact number on duty from the Medical College of Virginia School of Medicine by press time; however, we know that a large number are presently serving from the Medical College of Virginia. Those currently on duty graduating from The University of Virginia include the present Deputy Surgeon General, Rear Admiral Robert O. Canada, MC, USN and Rear Admiral Joseph L. Yon, M.C., U.S.N., Commanding Officer, U. S. Naval Hospital, Portsmouth, and District Medical Officer, Fifth Naval District, Norfolk; also Captain

Henry C. Hunley, Jr., MC, USN, and Captain Joseph P. Pollard, MC, USN, who are among the foremost leaders in aviation and space medicine. The complete list of those officers and their duty stations follows:

CDR Watland Bennett, MC, USN
Mare Island Naval Shipyard
Vallejo, Calif.

Lt. Lawrence A. Bernert, MC, USNR
U.S. Naval Hospital
Portsmouth, Virginia

Lt. Herbert W. Bistrong, MC, USN
U.S. Naval Hospital
San Diego, Calif.

Lt. Bruce E. Bradley, Jr., MC, USN
Naval Medical Research Institute
National Naval Medical Center
Bethesda, Maryland 20014

Capt. Carl A. Broadus, Jr., MC, USN
U.S. Naval Hospital
Chelsea, Mass.

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Senior Medical Officers in 1938 Navy Register from State of Virginia

1. Captain Frederick E. Porter, MC, USN
CO of San Diego Hospital
2. Captain George S. Hathaway, MC, USN
CO of Newport Hospital
3. Capt. Frank E. Sellers, MC, USN
CO of Philadelphia Hospital
4. Capt. Thurlow W. Reed
Medical Officer Hospital Ship Relief
5. Captain Ausey H. Robnett, MC, USN
Senior Medical Officer Naval Training
Station, Great Lakes, Ill.
6. Captain Harry E. Jenkins, MC, USN
Instructor in Naval War College, New-
port, R. I.

7. Captain Carroll R. Baker, MC, USN
Division Chief, Bureau of Medicine &
Surgery
8. Rear Admiral Luther Sheldon, MC,
USN 1940-1944 Deputy Surgeon Gen-
eral of the Navy
9. Captain William W. Hargrave, MC,
USN
Great Lakes Naval Hospital

Those Below Rank of Captain

In 1938 there were also 11 medical officers in the rank of Commander who came from Virginia. Of these later Captain John R. Poppen became an important leading pioneer in naval aviation medicine. And one was later Rear Admiral Sterling S. Cook, MC, USN, who was a District Medical Officer; and Rear Admiral Ocie B. Morrison, MC, USN, was a District Medical Officer and Assistant Chief of BUMED after World War II.

Dr. Cumberland George Herndon, a graduate of the University of Virginia in 1872, was born July 12, 1850, and died May 5, 1911. This physician established two scholarships at the University of Virginia which are no longer in existence. He was initially appointed to the Navy from Virginia, and entered service on May 3, 1874, as Assistant Surgeon. He then became Passed Assistant Surgeon March 26, 1878. Dr. Herndon served on board the *Canadaigua*, North Atlantic Station, 1874-7; *R. S. Colorado*, 1877-8; *Asiatic Station*, 1878-81; *R. S. Franklin*, 1881-3; *Fish Commission Steamer Albatross*, 1883-4; special duty, Washington, 1884-7; *Enterprise*, European Station, 1887-90; *Marine Rendezvous*, New York, October, 1890-03. He was promoted to the rank of Surgeon, February 8, 1890, and served in the Bureau of Medicine and Surgery from 1893-4. He next served aboard the *Lancaster* in the South Atlantic station, 1895-97, was on board the *Columbia* in 1898-99, and served in the Naval Museum of Hygiene, 1899-1900, and in the Navy Yard, 1900-1. Dr. Herndon was promoted

to Medical Inspector April 28, 1901. He served in the Navy Yard, Washington, D. C., August 16, 1901, and retired from that post on December 15, 1905. In all, this Virginian served thirteen years and four months of sea duty and fifteen years and ten months of shore duty.

Herbert Lamont Pugh, the twenty-fifth Chief of the Bureau of Medicine and Surgery, and the twenty-first to hold the title of Surgeon General of the Navy, was born on a farm near Batesville, Albemarle County, Virginia, on February 5, 1895. He was the second Surgeon General of the Navy from the Old Dominion, the other having been Rear Admiral Presley M. Rixey. He was also the second Surgeon General of the Navy to have been appointed while serving as Deputy Surgeon General; the other was Assistant Surgeon P. J. Horwitz, who served as Surgeon General from 1865-1869.

Upon his return to civil life in 1919 following service with the Marine Corps during WW I, he entered competition for and won the Herndon Scholarship in the Department of Medicine at the University of Virginia. In compliance with a requirement of the scholarship, he entered the Medical Corps of the Navy upon receiving his degree of Doctor of Medicine in 1923.

Commissioned Lieutenant (jg) June 15, 1923, he completed his internship at the U. S. Naval Hospital, Chelsea, Massachusetts, and subsequently served at a variety of stations and aboard a number of ships, both at home and abroad. His chief assignments at sea included tours of duty aboard the *U.S.S. California*, the *U.S.S. Asheville*, the *U.S.S. Rochester* and the *U.S.S. Gold Star*. Among his shore assignments were those of Assistant Chief of Surgery at the U. S. Naval Hospitals, Great Lakes, Illinois; Annapolis, Maryland; Philadelphia, Pennsylvania; Washington, D. C., and Bethesda, Maryland; and as Chief of Surgery at the U. S. Naval Hospital, Guam; Mobile Base Hospital, No. 1 Guantanamo Bay, Cuba; the U. S. Naval Hospitals, Pearl Harbor, San Diego, California, and Bethesda, Maryland. From

December 1944 to December 1946, he was Commanding Officer of the U. S. Naval Medical School, Bethesda, Maryland.

On December 2, 1946, Dr. Pugh was designated by the Secretary of the Navy as the Deputy and Assistant Chief of the Bureau of Medicine and Surgery, Navy Department with the rank of Rear Admiral. On December 22, 1950, he was nominated by the President of the United States to be Surgeon General of the Navy and Chief of the Bureau of Medicine and Surgery for a term of four years. On August 1, 1956, after completing a historical volume covering the Medical Department of the Navy throughout the decade 1945-55, he retired from active service.

Rear Admiral Pugh is a member of the University of Virginia Medical Alumni Advisory Committee and for the year 1961 he served as General Chairman of the University of Virginia Alumni Fund. He is a member of the American Legion (for four years he was a member of the American Legion's National Medical Advisory Council); Member, Naval Order of the United States, New York Commandery; Military Order of the Carabo; Naval Historical Foundation; Naval Institute; National Geographic Society and American Pheasant Society. Dr. Pugh is the medical member of the Board of Trustees of the Navy-Marine Corps Residence Foundation Incorporated.

In addition to *A History of the Medical Department of the U. S. Navy 1945-55* and of *Navy Surgeon*, an autobiography, published in 1959 by the J. P. Lippincott Company, Rear Admiral Pugh has written articles on miscellaneous topics. Two such offerings have appeared in "Virginia Cavalcade".

This Naval Officer has attained recognition upon numerous counts including the following: Diplomate of the National Board of Medical Examiners and former member of the Board; Fellow of the American College of Surgeons; member of the American Surgical Association, of the American Board of Surgery and of the American Board of

Preventive Medicine and Public Health; member of the American Medical Association, one time member of the House of Delegates of the American Medical Association and later Chairman of the Section on Military Medicine of that Association. During his tenure as Surgeon General 1951-1955, he was governor for the Navy in the American College of Physicians. He is an Honorary Fellow of the International College of Surgeons and of the International College of Dentists, of the American Association for the Surgery of Trauma, of the American College of Hospital Administrators, and of the American College of Chest Physicians. He is an ex-officio member of the Advisory Medical Board American Leprosy Foundation and an Honorary Director of the American Foundation for Tropical Diseases and is a former member of the Board of Governors of the American Red Cross. Rear Admiral Pugh is a member of Alpha Omega Alpha, Phi Beta Kappa, Omicron Delta Kappa, the Society of The Cincinnati, and the Raven Society of the University of Virginia. He is the recipient of the honorary degree of Doctor of Laws from Wagner College.

Rear Admiral Bruce E. Bradley, Medical Corps, USN, was the Deputy and Assistant

Chief of the Bureau of Medicine and Surgery where he reported in February 17, 1955. Dr. Bradley was born in Raleigh, North Carolina, on September 29, 1902, but attended high school in Portsmouth, Virginia, and graduated from William and Mary College, and the University of Virginia with a degree of Doctor of Medicine in 1926. He was made Rear Admiral August 9, 1954. Rear Admiral Bradley's son is currently on active duty at the Naval Medical Research Institute, Bethesda, Maryland.

From these few vignettes, it is obvious that there is a strong affinity between physicians from Virginia and the Department of the Navy Bureau of Medicine and Surgery, and the editors of the Virginia Medical Monthly hope this tradition continues for many more years. Virginia has ample reason to be proud of her seagoing physicians.

The *Virginia Medical Monthly* is indebted to (1) the Technical Information Office, Bureau of Medicine and Surgery, Department of the Navy; (2) Library of Congress; (3) National Library of Medicine; (4) Navy Department Archives; (5) Historical Section of CNO; (6) National Archives; (7) Stitt Library; (8) the Surgeons General Library; and particularly, (9) Captain F. R. Petiprin, MSC, USN, Director of Publications Division of the Department of the Navy Bureau of Medicine and Surgery.

*Medical Arts Building
Richmond, Virginia*

New Magazine for Physicians' Wives

A new magazine, "MD's Wife," is being published by the Women's Auxiliary to the American Medical Association.

Designed especially for physicians' wives, the bimonthly publication features four-color illustrations, national advertising, and a variety of features of interest to women.

Articles about pilot-wives and the adventures of a physician's wife in learning about Japanese geisha girls are part of the first issue's contents. The four-color cover fea-

tures a painting by abstract-expressionist Hans Hofmann.

Approximately 90,000 copies of the magazine will be distributed to members of the AMA Auxiliary, the Women's Auxiliary of the Student American Medical Association, and to officers and headquarters of other women's voluntary service organizations.

"MD's Wife" replaces the quarterly Bulletin of the Women's Auxiliary. The editor is Mrs. John Wagner, of Clarks Summit, Pa.

The Problems of Employee Absence

JOHN T. JARRETT, M.D.
Richmond, Virginia

It is becoming difficult to get employees back to work when they are paid while off duty because of illness, accident or surgery. Business needs the cooperation and understanding of the medical profession to keep the cost of absence and the convalescent period at a reasonable limit.

WE ARE LIVING in an era of big government, high taxes and fringe benefits. Our fathers and grandfathers were paid a day's wage for doing a day's work, but today in addition to wages most employees receive vacation with pay, sickness benefit payments, retirement pay and many other benefits at Company expense. We are all aware of the influence of "The New Deal", "The Fair Deal" and now "The Great Society". In many respects this has been good, but this liberal trend has also created many problems. We find our mental health at a low level, too many people want something for nothing, and we see too frequently the psychological drive of using an illness or alleged illness for secondary gain. It is becoming more difficult to get employees back to work when they are paid while off duty because of illness, accident or surgery.

The length of the convalescent period following illness or surgery in many cases is much too long. It has been pointed out, as

Medical Director, the Chesapeake and Potomac Telephone Company of Virginia.

long ago as 1958, that the recovery time could be safely diminished by one-fourth. In surgical cases alone, this would amount to a saving to our national economy of over one billion dollars.¹ Recently it was estimated that in one year Americans lost 13 billion 600 million dollars (\$13,600,000,000.00) in wages and salaries because of illness and surgery.² Fortunately for most employees, their employers continue their salary (in part or in toto) as sickness benefit payments. Dr. William Menninger has estimated that absenteeism costs industry 16 billion dollars a year.³ The alcoholic hang-over costs an estimated three billion dollars a year and accidents due to emotional factors another three billion dollars. Authorization for payments of sickness and accident benefits requires the signed medical certificate of the employee's attending physician. I believe that all industrial physicians and all industry in general would make the plea that these requests for payment be justified. Many industries also pay all or part of the premiums for hospital and medical care insurance plans for all of their employees. It appears that soon the cost of employee absence to industry will be in the neighborhood of 30 billion dollars a year. The additional costs of planning and changes that must be made in the work force because of absent employees are difficult to measure. This is a big bill and business needs the help of the medical profession to keep the convalescent period at a reasonable limit.

There are many factors which influence the convalescent period. The first is the employee himself. Almost all well-motivated people are back on the job in minimal time. There are others that do not return until an obviously unnecessarily delayed date. Management itself varies tremendous-

ly in attitude toward attendance and this is a second factor affecting return to duty. The American Management Association has pointed out that this attitude may vary to tolerate 1% to 10% of the total cost of operating the business in payments to people absent from work.⁴ Another factor, of course, is the private physician himself. By reason of the various recognized formal and preceptor types of training and experience there is a wide variation in the minds of physicians and surgeons about the length of convalescence. We in our Company find that the private physician is the most important factor, as it should be, and that our people return to work when their physicians believe they are able to do so.

In my experience, the medical profession in Virginia has been fairly reasonable about the length of convalescent time and has been cooperative with Industrial Medical Departments. There are a number of physicians, however, who apparently are not aware that most employees are being paid sickness benefits (in our Company based on length of service) while off from work for illness, accident or surgery. I hope this point is clear in the minds of all physicians. These people are being paid. It seems that on occasion some doctors are a little careless in signing medical certificates that request sickness benefit payments. Industrial physicians and industry as a whole do not want the worker back until he is well and able to perform his daily job. We are not asking the private physician to say when a man must go back to work, but we do need his help in making the decision when the sickness benefit payments are no longer justified. When this point is reached, most workers will come back to work without prodding from anyone. At the national level, this earlier return to duty would save many billions of dollars, and also improve the spirit and morale of all concerned.

Private physicians have a stake in industrial medicine and industry itself. Industrial medical programs operate under ethical guide lines laid down by the American Med-

ical Association. Industrial physicians are concerned with preplacement examinations, health maintenance, educational programs and referral of ill and injured employees to their own personal physicians. They and private physicians work as a team to provide the best information and medical care possible at the most reasonable cost to the employee and the Company. In the years ahead let us strive to improve the health and medical care of all of our people, and work even harder to contribute more to the economic structure and moral fiber of this great country of ours.

The following chart represents our Company's concept of how the personal physician and the Company physician can work as a team in the best interest of all concerned.

THE PERSONAL (FAMILY) PHYSICIAN AND THE COMPANY PHYSICIAN ARE A TEAM

Together they maintain the health of the worker at home and on the job. Their interest in the prevention and control of disease and injury results in better health, morale, less absence due to sickness and injury, and more effective work on the job.

ROLE OF THE TEAM MEMBERS JOB PLACEMENT

Personal Physician

Consults with the company physician about work limitations of his patient and about conditions which may not be suitable for him.

Company Physician

Studies job requirements and work environment to help management place employee on proper job.

ILLNESS AND INJURY REPORTS

Personal Physician

Keeps company physician informed about sick or injured employees and their subsequent rehabilitation. Cooperates in supply-

ing requests for sickness and accident reports.

Company Physician

Asks only for those reports which are absolutely necessary under company policy or required by law. With employee's permission, supplies the personal physician with such information as he may request or require.

Contacts, physician to physician, preserve confidentiality of employee's medical records.

REHABILITATION

Personal Physician

Uses medical skills to cure illness and repair injury, and follows convalescence until full recovery on the job.

Company Physician

Works with management and the personal physician in judicious job placement (following illness or injury) and in making available all possible opportunities for on-the-job rehabilitation.

PREVENTION OF ILLNESS AND ABSENTEEISM

Personal Physician

By accurate diagnosis and prompt treatment helps reduce lost time from work, especially that due to minor complaints, chronic complaints or emotional disturbances. Stresses preventive medicine on individual patient basis.

Company Physician

Reduces lost time from work by searching for and eliminating hazards, promoting safety and health education, and by isolating or preventing sources of infection. Utilizes

mass immunizations where indicated or appropriate.

PROFESSIONAL RELATIONS

Personal Physician

Utilizes the cooperation of the company-physician-nurse-safety team, whenever an employee's health may benefit from such teamwork.

Company Physician

Avoids using his position as company physician as means of building a private practice . . . promptly refers all sick employees or those injured to the personal physician.

MEDICAL SOCIETY RELATIONS

Personal Physician

Works with his medical society through the Committee on Occupational Health to promote good occupational health programs and strengthen the teamwork approach with the industrial physician.

Company Physician

Works with his medical society through the committee on Occupational Health and those professional organizations interested in community health as well as occupational health to help the employee.

The ultimate goal of each is always the best available care for the employee.

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Is the Colon the Ideal Esophageal Substitute?

WILLIAM STOKES HOUCK, JR., M.D.
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Richmond, Virginia

Numerous procedures have been used to reconstruct the esophagus following resection. The problem is a difficult one. Several structures may be used but the colon is the most ideal substitute.

SEGMENTAL RESECTION of the esophagus and end-to-end anastomosis is difficult to accomplish successfully unless a short segment is removed. This is due to the segmental blood supply and lack of redundancy of the esophagus. Some means of replacement is, therefore, needed when excision is performed. The ideal substitute should have a good blood supply, adequate length, resistance to acid peptic digestion and an acceptable mortality and morbidity associated with the procedure.

In the early 1900's, numerous procedures were used to reconstruct the esophagus and many of the present-day procedures were devised. Skin tubes were fashioned to replace the cervical esophagus as early as 1886 by Von Mikulicz.¹⁸ This technique is employed today with much success.^{3,15} Plastic tubes have been employed over the years but are primarily used in palliation for carcinoma of the esophagus.¹⁸ The small intestine, the stomach and the colon are used most frequently in reconstructing the esophagus.

In 1907 Roux¹¹ used a loop of jejunum subcutaneously to replace the esophagus and more recently intrathoracic transplantation

has been accomplished by others.¹³ The small bowel theoretically is an ideal organ for esophageal replacement. Its luminal size is comparable to that of the esophagus and there is available an ample supply of small intestine. Even with these advantages, many problems are encountered with small bowel transplantation. This is primarily due to the anatomical arrangement of the vascular arcades. A long loop with a good blood supply is difficult to fashion¹² even with mobilization of the cecum. This has prompted some to suggest a staged procedure with small intestinal transplantation. Intrathoracic routing of the small bowel is hazardous and, therefore, substernal or subcutaneous positioning should be used.²⁰

The small bowel is very sensitive to acid pepsin digestion and esophagitis has been prevalent in these transplants.²⁰ A roux-en-y type procedure is occasionally needed to eliminate marginal ulceration.

Because of these disadvantages the use of the small bowel is not ideal in esophageal reconstruction.

Construction of gastric tubes using the stomach wall have been advocated.¹⁰ Heimlich⁹ has reported excellent results with this technique. Necrosis of the gastric tube, however, is noted in a high percentage of these cases and digestion of the esophageal mucosa above the anastomosis has been seen.¹⁸ Nutritional problems may develop and other difficulties occur secondary to splenectomy and mobilization of the tail of the pancreas which is necessary in order to obtain adequate length. The results of this procedure have not been too impressive and general acceptance has not occurred.

In 1907 Wendel¹⁷ used the stomach as an esophageal replacement. Churchill and Sweet have encouraged its use in recent

From the Department of Surgery, Richmond Memorial Hospital.

years.² The stomach has an excellent blood supply and is readily available for replacement. There is also a low mortality in using the stomach. These are the greatest assets. The incidence of esophagitis in esophagogastrostomy is high, however, and some have reported a 60% occurrence.¹² There is also poor emptying of the stomach, particularly when it is transplanted high in the chest. These patients have symptoms of fullness and pain and nutritional problems often result. Regurgitation is also noted and in small children intrathoracic transplantation of the stomach leads to pulmonary complications. The stomach is useful in resection and reconstruction of the distal one-third of the esophagus, but Wangenstein has stated that the stomach is not an ideal replacement for the esophagus.³

The colon was first used in 1911 as an esophageal replacement¹ and Ochsner accumulated 20 cases of esophagocoloplasty from the literature in 1934.¹⁶ With the advancement of bowel sterilization and the importance of total esophagectomy for carcinoma of the esophagus,^{5,11,21} the colon has become the organ of choice in most esophageal replacements.

Marginal ulceration is not a problem in esophagocoloplasty. Sherman⁵ collected 336 cases of colon transplants and only two instances of peptic digestion of the colon were noted. It is much more resistant to acid pepsin digestion than the esophagus and small intestine as has been demonstrated by many investigators.^{10,20} There is adequate colon available for reconstruction. These facts are important but the crucial consideration is the blood supply to and from the transplanted colon segment. This is through the middle colic artery and marginal arteries of Drummond. Sonneland¹⁹ examined 600 cadavers and found the middle colic artery absent in 3.6% of cases. He also found the marginal artery of Drummond absent in a very small percent of cases in the region of the splenic flexure. A failure of continuity between the right colic artery and ileo-colic

artery was present in 5% of cases. Therefore, in only a small percentage of cases will a variation of the vascular pattern of the colon impede its use.

Investigation of the colon with a barium enema preoperatively is necessary in an effort to rule out colonic lesions. If pathology is discovered, re-evaluation of the procedure is indicated.

The mortality with esophagocoloplasty has not been unreasonable. In 46 consecutive cases performed at the Medical College of South Carolina⁶ and Duke University, only two deaths resulted. One of these patients was in the eighth decade of life and both had squamous cell carcinoma of the esophagus. The normal swallowing mechanism is restored in these patients and digestive and nutritional disturbances are fewer than with other reconstructive procedures. Complications have been high and some have reported a 41.6% complication rate.¹⁰ (Fig. 1). With better techniques and bet-

COMPLICATIONS OF ESOPHAGOCOLOPLASTY

1. Cervical Fistula
2. Gangrene of Colon
3. Recurrent Nerve Palsy
4. Pneumothorax
5. Mediastinitis
6. Distention of Colon Transplant
7. Distention of Stomach
 - (a) Pylorospasm
 - (b) Duodenal Obstruction
8. Empyema
9. Diarrhea
10. Atelectasis
11. Shock
12. Dumping Syndrome
13. Intestinal Obstruction

FIG. 1

This is a list of some of the more frequently encountered complications.

ter selection of cases, this figure has been reduced considerably.

Indications

1. Corrosive Strictures of the Esophagus

Fifty percent⁴ of the patients with chemical burns of the esophagus develop strictures. The majority will respond to conservative management but surgery is indi-

cated occasionally. The results, using the colon, have been good.

2. *Congenital Tracheo-Esophageal Fistula*

When there is a wide gap between the proximal and distal ends of the esophagus, or when there is a long atretic portion of esophagus some reconstructive procedure is necessary. Haight^{7,8} has used the colon sub-sternally in 13.5% of his cases with 42.8% good results. The procedure is delayed until the second year of life or later.

3. *Benign Lesions of the Esophagus*

Occasionally considerable destruction of the esophagus will be associated with these lesions. End-to-end anastomosis is not feasible and some replacement is necessary.

4. *Esophageal Varices*

Bleeding from varices may continue after the more routine surgical procedures

may be employed as a palliative procedure to aid swallowing or in association with a resection.

We have recently had a patient at Richmond Memorial Hospital in whom a total esophagectomy and right colon transplantation were successfully carried out.

This was a 47-year-old Negro male who was admitted on 12-21-64 for treatment of back strain. While in the hospital, he complained of dysphagia and a barium swallow was obtained. (Fig. 2A) A mid-esophageal lesion was demonstrated. Esophagoscopy with biopsy of the lesion confirmed the impression of a squamous cell carcinoma. Further examination and evaluation were normal.

On January 12, 1965, a total esophagectomy and esophagocoloplasty were carried out. The right colon was transplanted intrathoracically and anastomosed to the

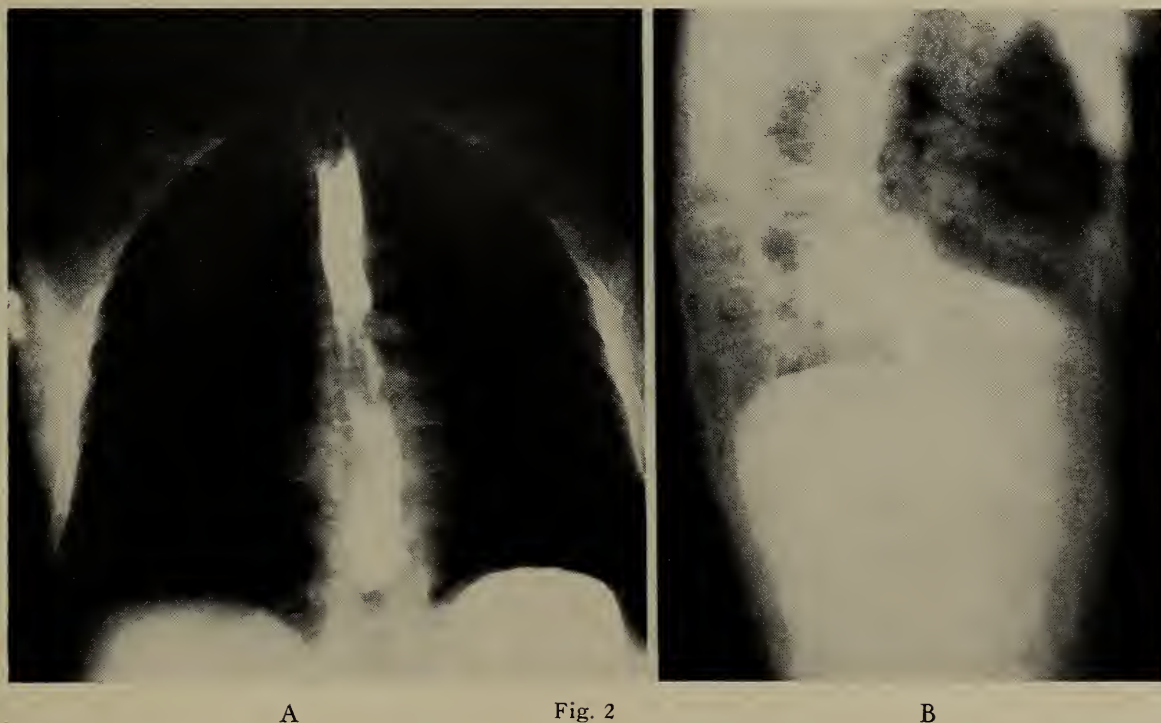


Fig. 2

are attempted. Resection of the distal esophagus with interposition of the colon has been performed with good results.¹⁴

5. *Squamous Cell Carcinoma of the Esophagus*

Colon interposition has been employed more frequently with this condition. It

esophagus in the right neck at the level of the thyroid. A cologastrostomy, gastrostomy, and pyloroplasty were also performed.

The patient did well postoperatively and a barium swallow on January 19, 1965, revealed good function of the transplant. (Fig. 2B). He was started on oral fluids on

1-20-65 and this was gradually increased to a soft diet by 1-25-65. He was discharged on 1-29-65 and since his discharge has done well.

Postoperatively, the patient developed a hemothorax on the right and thoracentesis was required. He also had superficial infections of the thoracotomy and laparotomy wounds, but these complications healed without any sequelae.

The technique of colon reconstruction is not stereotyped. The transverse colon, right colon or left colon may be employed. They may be transplanted intrathoracically or substernally in an isoperistaltic or antiperistaltic position. The procedure may be staged or accomplished in one sitting, using two teams. Good results have been reported using all of these different techniques.^{1,5,10,11}

Summary

Reconstruction of the esophagus following resection is a difficult problem. It may be accomplished using several different structures but the colon provides the most ideal substitute.

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501 East Franklin Street
Richmond, Virginia

Clinicopathological Conference

Chest Pain, Collapse and Coma in an Alcoholic

CLINICAL DISCUSSANT:

Julian R. Beckwith, M.D.
Professor of Medicine
University of Virginia School of Medicine
UVH #34-95-77
Admitted: 9/28/64
Expired: 9/30/64

This sixty year old widowed waitress was admitted because of chest pain beginning about forty-five minutes prior to admission. She had been at work washing dishes at 5:45 A.M. at the time this symptom began; pain was substernal in location with radiation to the left arm. This was followed by her collapse to the floor. No information about her state of consciousness or other symptoms during this "collapse" was available, and the patient was confused although free of pain when she was brought to the emergency room. There may have been several lesser episodes of similar pain lasting about ten minutes during the previous year.

The patient lived alone and apparently drank large quantities of alcoholic beverages. She was first seen here in the medical clinic in 1954 for a mild gastrointestinal upset, at which time her blood pressure was 140/80. She was first admitted to the hospital in 1955 for drainage of an abscess of the hand which occurred following trauma during a fight. Blood pressure was 150/96. She was seen in 1962 in the surgery clinic for hand trauma. In 1963 she was treated for left wrist trauma that occurred while playing football; there were no fractures.

In the emergency room she was observed to be an obese, confused woman with dirt on the back of her clothing. There was an unimpressive basal systolic murmur, and the liver edge was percussed 2 cm. below the right costal margin. The pupils were somewhat small and reacted to light sluggishly.

Prepared and edited by:
LOCKHART B. McGUIRE, M.D.
DAVID E. SMITH, M.D.

Except for mental confusion there were no discrete neurologic abnormalities. An electrocardiogram suggested left ventricular hypertrophy and ischemia. During the next few hours the patient became progressively obtunded, until she was totally unresponsive at noon. Nurses' observations during this period included:

Time	Blood Pressure	Pulse	Respirations
7:00 A.M.	200/90	70	16
10:00 A.M.	200/100	60	20
12:00 A.M.	240/95	54	12

Physical examination at the time the patient reached the ward confirmed the previous observations. Temperature was 97.8° F. Respirations were slightly irregular. No signs of head trauma could be found. The patient would open her eyes when questioned. At this time there was inward deviation of the left eye and apparent inability to gaze upward. The right pupil was 3 mm. and left 2 mm. in diameter, and both responded to light. Corneal reflexes were present. The optic fundi and ENT examination were normal. There was no nuchal rigidity, and carotid arteries pulsated equally. She was able to move all extremities at times. Response to superficial and deep pain was inconsistent. Deep tendon reflexes were diminished bilaterally. There was probably a right extensor plantar response. The face was symmetrical, the tongue was midline and gag reflex was present.

Laboratory studies: WBC 11,500, segs. 82, lymphs 9, monos 8. Urinalysis was not done. Hematocrit was 47%. Sedimentation rate—normal. Prothrombin time 12.5/12.5 sec., glucose 124 mg. % (IV running), urea 21, CO₂ 26, CL 101, Na 144, K 4.9; total protein 6.9, A/G 4.9/2.0 gms. %, alk. phosphatase 3.62, cholesterol 230, thymol 1.3,

SGOTransaminase 46, SGPyruvic transaminase 7, lactic dehydrogenase 112 (upper limits of normal). Skull x-rays—pineal not calcified, and there were no fractures. ECHO encephalogram showed midline structures were midline in one photo (Fig. 1); a second study was thought to be technically poor because of head position. Lumbar puncture: Opening pressure 135, closing pressure 105 mm., clear fluid, 200 cells, essentially all r.b.c., protein 25 mg.%, and glucose 76%. Pandy and Ross Jones tests were negative. The chest x-ray showed slight cardiomegaly and aortic dilatation and will be discussed.

Hospital course: Although the presenting complaint had been chest pain, the patient's neurological deterioration became the major concern. Myocardial infarction could not be demonstrated on a repeat electrocardiogram, and the slight elevation of the serum LDH was regarded as a non-specific finding. Neurological consultant felt that the brain-stem signs were on an intra-medullary basis. On September 29th in the morning she was completely unresponsive with a mid-dilated right pupil and right extensor plantar response. About mid-day respiratory arrest occurred, following which both pupils became dilated without reaction to light. Her respiratory pattern was Cheyne-Stokes. Intravenous thiamine was given. There was no response, however, and approximately 12 hours later respiration ceased, and were only temporarily responsive to resuscitation.

Clinical Discussion

DR. JULIAN BECKWITH: The history gives us a picture of a rather vigorous woman, with her multiple traumatic episodes and heavy alcohol consumption. One of her injuries was acquired playing football. One wonders what was served in her restaurant. This seems to me to be the most important part of her history. There had been moderate systemic hypertension. The sudden chest pain and collapse could indicate myocardial infarction or dissecting aneurysm. If her previous episodes of chest pain repre-

sented angina, it was apparently not enough to interrupt her football playing and fighting. The dirt on the back of her clothing on admission suggests that she fell at the time of her collapse. The electrocardiogram doesn't really help, since it sounds compatible with left ventricular hypertrophy alone. The observations of her pulse and blood pressure in the emergency room are worth emphasizing. To me they mean increasing intracranial pressure at that time.

On the physical examination, the lack of external signs of cranial trauma is of only passing interest, since this is usually absent in problems of the sort which I think this woman had. The inward deviation of the left eye indicates involvement of the left 6th cranial nerve. This is important. This nerve travels a long distance on the floor of the cranial cavity from its origin in the brain stem to its innervation of the lateral rectus muscle. As such, it is particularly vulnerable to the effects of compression from increased intracranial pressure. I would forget about the inability of upward gaze because at that time there were no pupillary or other changes to go along with 3rd cranial nerve involvement. The other cranial nerves were tested, and we know that the sensory portion of the 5th, the 7th, and the 9th and 12th were all right. Presumably at this time there was no major involvement of the long motor tracts, since she was able to move all extremities. Later she had a positive right Babinski. The systolic murmur cannot be interpreted by me at this point. The routine laboratory studies are completely uninformative, and I would expect it to be that way.

DR. CRISPELL: Don't you want the urinalysis if you are thinking about an aortic dissection? That is, it might have involved the renal arteries.

DR. BECKWITH: Well, I had actually dismissed dissecting aneurysm, but that would help. However, the protocol says that no urinalysis was reported. Maybe we can get some help on this from looking at the films.

DR. WILLIAM CRADDOCK: The chest does

show a slightly enlarged heart, probably mostly left ventricle, and a dilated aorta with loss of definition of the lateral margin in the descending aorta. There is some haziness at the left lung base. In fact, this loss of definition of the aortic margin and haziness at the costophrenic angle are two of the radiologic findings in dissecting aneurysm.

DR. BECKWITH: If that had been blood at the left base due to dissecting aneurysm though, she would not have lived two more days. She never became hypotensive.

DR. CRADDOCK: Probably so. The skull films show no pineal calcification, and we cannot give any help on the question of a shift of midline structures. There are none of the findings occasionally seen in chronic increased intra-cranial pressure. Some question has been raised about this thickening of the inner table anteriorly on the lateral view. This is hyperostosis, and there is no problem in differentiating it from an old, calcified subdural hematoma.

DR. BECKWITH: This patient had other studies in an effort to understand her neurologic problem. One of these was an echo-encephalogram. As I understand it, this test is designed to reveal a shift in the midline structures of the brain to one side or the other. Dr. Stewart, can you tell us about this study in this patient?

DR. LEVER STEWART: The echo-encephalogram consists of an ultrasound generator and crystal transducer which alternately sends and receives pulses of ultrasonic energy. The transducer is placed against the skull in the temporal area on one side of the head, and sound echos are reflected back to it from the midline structures as well as from the near and far walls of the skull. These reflections are amplified and displayed on the screen of an oscilloscope. The screen is calibrated. Ordinarily the echo from the midline structures will lie midway between the echo from the far wall and that from the wall of the skull immediately underlying the transducer. It is only one of several ways in which we try to detect displacement of midline structures. The results of its use at this

hospital have been generally satisfactory. In the case of this patient, there was no evidence of displacement (see Fig. 1) in the initial study. Because of our concern over her progressive neurologic deterioration, an attempt to repeat it was made. This was considered technically unsatisfactory because of head motion.

DR. BECKWITH: Next we have the spinal tap. The red cells make you think, since I understand this was not considered to be a traumatic tap. Since I have already referred to some indications of increased intracranial pressure, this should have been pres-



Fig. 1. An echo-encephalogram, as described in the discussion. In this instance there was no evidence of a shift of midline structures toward one side of the cranial cavity.

ent in the pressure measured at the time of the tap, but it was not elevated. I am not going to let that change my impression. Later this patient develops pyramidal tract signs and the characteristic dilated right pupil from compression of the 3rd cranial nerve and cerebral peduncle on the right side against the tentorium. To return to the chest pain, we simply do not have enough evidence to explain it. On the basis of probability, we can suggest coronary disease. I cannot really tie this in with her cerebral problem, which seem to have been a progressive, space-occupying lesion during her brief hospital stay. I am not sure what the ap-

parent paralysis of upward gaze means in terms of localization.

DR. STEWART: Paralysis of upward gaze is of no significance in a patient who has depressed consciousness. Upward gaze paresis otherwise is due to involvement of the mid-brain at the level of the superior colliculi. Hence, it is sometimes associated with pineal tumors, but in this patient can be explained by depressed consciousness alone. But how can you get around the lack of spinal fluid pressure elevation if you believe the intra-cranial pressure was elevated?

DR. BECKWITH: In the subdural hematomas I have seen the spinal fluid pressure has not been helpful. It may be elevated. Perhaps there is interruption in the transmission of intra-cranial pressure throughout the spinal subarachnoid space in some cases.

DR. STEWART: Actually I agree with you. The spinal fluid pressure is a poor guide to the diagnosis of subdural disease.

DR. DOUGLAS EASTWOOD: We ought to consider an alternative explanation for the bradycardia and systolic hypertension other than increased intra-cranial pressure. These may also result from hypercapnia. Acute obtundity due to any central nervous system problem could cause depressed respiration and hence increased partial pressure of carbon dioxide ($p\text{CO}_2$) in the blood. This can occur so rapidly that the blood bicarbonate might not be elevated when it is measured initially, as was the case here. You would have to measure the $p\text{CO}_2$ itself. What about the echo-encephalogram? How often is it wrong?

DR. STEWART: The echo can be wrong occasionally. You also have to remember the possibility of a bilateral subdural hematoma or other bilateral lesions. These can cause the increased pressure without any shift of midline structures.

DR. CRISPELL: This case troubles me. Here is a known alcoholic with presumably old and recent trauma, who becomes comatose with some pretty good signs, as Dr. Beckwith points out, of increasing intra-cranial pressure. Eventually shortly before

her death, these suggestions became even stronger. Weren't burr holes considered?

DR. WALLER TABB: This patient was admitted with a provisional diagnosis of myocardial infarction and some neurologic complication. She was followed with us by the neurologists. With a normal echo-encephalogram and spinal fluid pressure, and a strong possibility of myocardial infarct at first, none of us felt like pressing for burr holes.

DR. STEWART: At least part of this patient's hypertension was known to have been present previously from her clinic visits. We were thinking primarily of a basilar artery insufficiency or of a Wernicke's encephalopathy at the time of her final admission. The findings are compatible with those conditions.

DR. BECKWITH'S DIAGNOSES:

1. *Subdural hematoma*
2. *Chest pain, cause unknown, probably coronary artery insufficiency.*

Pathologic Discussion

DR. MARTIN G. NETSKY: The autopsy was performed by Dr. Salcedo. We have no adequate explanation for the chest pain other than ecchymosis in the skin of the sternal region. There was only minimal enlargement of the heart and arteriosclerosis of the coronary arteries. Hemorrhages were found in the parenchyma of both lungs, but the largest was about 4 cm. in greatest diameter. The lungs were congested and edematous.

The right side of the brain was covered by a large, thin subdural hematoma extending from the frontal to the occipital pole (figure 2). The greatest diameter of the hematoma was more than 15 cm., but the thickness was about 5 mm. The blood in the hematoma had a fresh appearance, and the amount was estimated as 15 to 20 cc. The rostral end of the second frontal gyrus contained an irregular zone of contusion measuring 1.5 x 1.0 cm. (figure 2).

The uncinate processes of the temporal lobes were herniated bilaterally, more on the

right side than on the left. After removal of the brain stem by section through the midbrain, it was seen that the right hippocampal gyrus had also herniated. Pressure

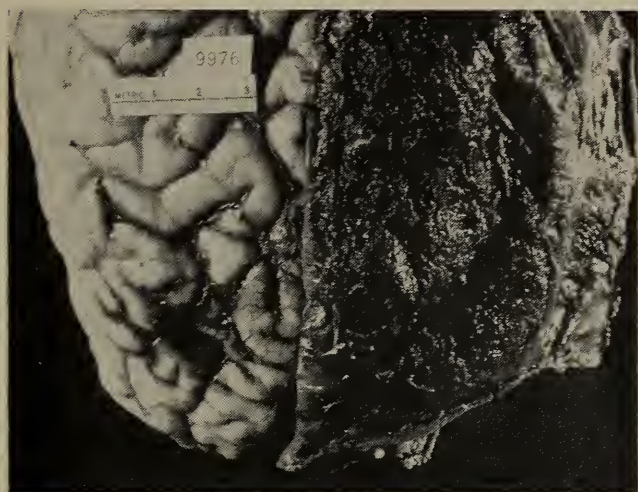


Fig. 2. The frontal lobes of the brain with the dura mater and thin subdural hematoma folded away from the right side. The hemorrhagic and partially organized inner surface of the hematoma covers the left lobe in the photograph and there is a dark 2 cm. focus of cortical contusion in the middle frontal gyrus near its pole.

against the right posterior cerebral artery was indicated by dusky discoloration of the brain in the distribution of that artery. The

The brain was sectioned coronally to disclose red discoloration of the cortex in the right temporal lobe posteriorly, indicating recent hemorrhagic infarction. Fresh, ball-hemorrhages were noted in the midbrain around the aqueduct of Sylvius and in the upper part of the pons.

Microscopic examination disclosed that portions of the subdural hematoma were chronic. These parts were composed of dense collagenous connective tissue (figure 3). Other parts of the hematoma contained the fresh blood seen macroscopically (figure 4). The gross findings in the temporal lobe, midbrain and pons were confirmed microscopically.

Reconstructing the sequence of events, I believe this woman had old small subdural bleeding from trauma and resolution by connective tissue proliferation. The terminal sequence began with the contusion in the right frontal region. Fresh blood entered the subdural space from the contusion, and some blood might have come from the small thin-walled blood vessels of the old mem-

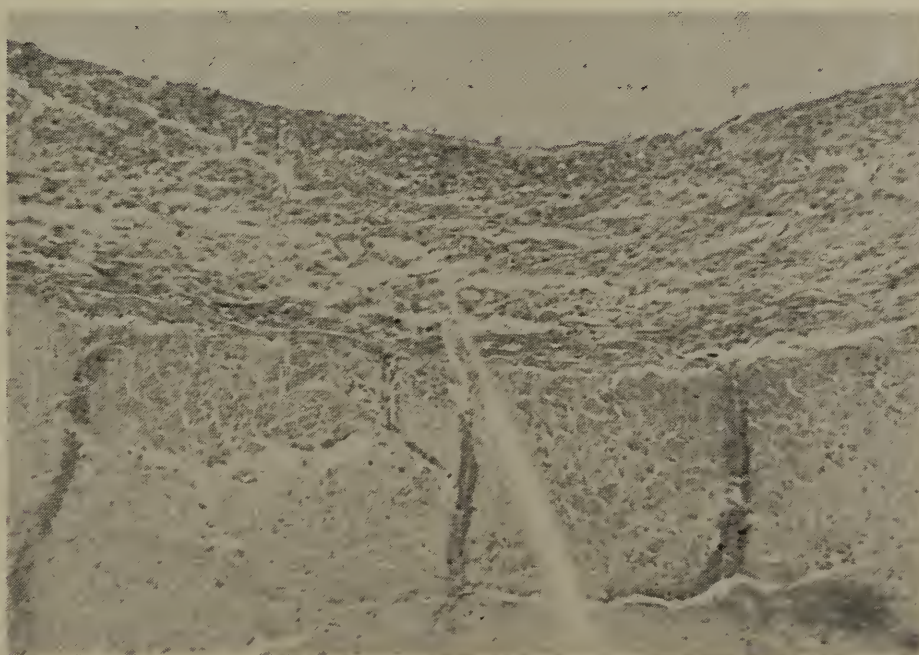


Fig. 3. A thin portion of the subdural hematoma near its periphery with an organized layer of fibrous tissue and vascular sinuses attached to the dense collagenous dura mater. (H. & E.; X 60.)

right cingulate gyrus was herniated from right to left about 3 mm.

brane. The right side of the brain became swollen secondary to the trauma, causing

herniation of the cingulate gyrus, both unci, and the right hippocampal gyrus. The brain stem was squeezed between the unci, causing hemorrhages in mesencephalon and pons, and the right posterior cerebral artery was compressed, leading to hemorrhagic infarction. The latter contributed to continued swelling of the brain and death resulted. Pressure on both 3rd cranial nerves caused pupillary dilatation; loss of consciousness

The second issue deals with the mechanism of progression of subdural hematoma. Again, it is generally accepted that the membranes act as osmometers, and fluid is pulled in as hemoglobin breaks down. My concept is that fresh bleeding occurs from time to time, as was found in this case. Many arguments may be offered, but among them is the frequent intermittency of clinical progression, a fact better accounted for by in-



Fig. 4. The central portion of the subdural hematoma. There is only a thin layer of organization that is infiltrated by lysed and fresh erythrocytes, and in the upper right portion of the field the hemorrhage comprises almost all the tissue in the section with only an occasional very thin-walled sinusoid. (H. & E.; X 120.)

was related to the hemorrhage into the reticular formation of the brain stem.

Some mechanisms of subdural hematoma are well illustrated by this case. It is widely stated that the source of blood is from veins bridging the subdural space at the top of the brain and in the midline. This explanation of the source of blood I find acceptable in the case of the malleable skull of the newborn infant but difficult to believe for hematomas occurring in the hard head of the adult. Remember that many of the blows causing subdural hematomas are minor and cannot be conceived of as bending the skull. Direct bruising of cortical veins by contrecoup damage seems a more likely source of bleeding in the adult. Figure 1 shows this type of contusion.

termittent bleeding than by a steady increment in the fluid contents.

Also, I believe we have an anatomic explanation for the discrepancy between the increased intracranial pressure and the normal pressure disclosed by lumbar puncture. The tight ring around the midbrain created by herniation of one or both unci prevents the transmission of increased pressure in the cranium to the needle in the lumbar sac.

So there are a number of processes here. In addition to the subdural hematoma, which is quite thin and does not occupy much space, there is diffuse cerebral edema and a contusion, and there are hemorrhages in the brain stem. Whether burr holes should have been done is an important question. Since Dr. Mel Roberts of the Neurosurgery

Department is here, even though he was not involved in this case, I would like to know what his thoughts are.

DR. MELVILLE ROBERTS (Neurosurgery Department): Considering just the history and other findings which have been presented, I think that if this patient had been on the neurosurgical service burr holes would have been made. However, this thin subdural hematoma which you have shown us was probably of no immediate clinical significance. Subtemporal decompression is rarely effective in the treatment of cerebral edema. So I doubt if a craniotomy would have helped this woman very much.

DR. CRISPELL: For the students who are here, I think it is important to emphasize how strongly this history suggests increasing intracranial pressure due to the curable

problem of subdural hematoma. When there is any doubt, you should go all the way in excluding such a problem, and that would include doing burr holes.

FINAL ANATOMICAL DIAGNOSES:

*Ecchymosis of skin of sternal region (History of fall on day of admission);
Contusion of brain, right frontal region;
Old and recent subdural hematomas, right hemisphere;
Herniated unci of temporal lobes and right cingulate gyrus;
Venous hemorrhages, midbrain and pons;
Recent hemorrhagic infarct of the cerebral cortex, right posterior cerebral artery distribution;
Pulmonary congestion and edema;
Bilateral focal pulmonary hemorrhages;
Severe dilation of stomach.*

Campaign Against V.D.

As part of its nationwide campaign against venereal disease, the American Medical Association has sent educational announcements to more than 2,500 radio stations and 300 television stations.

50,000 two-color posters and 300,000 pamphlets outlining the dangers of V.D. were also sent to schools, state and local medical societies, and other health agencies.

The one-minute, animated TV spot announcements tell listeners that venereal disease is spreading in a wave of infection, and that early and continued medical treatment can cure V.D.

Sixty-second and 20-second radio announcements outline much the same message, pointing out that if left untreated, V.D. can blind, cripple, or even kill. Wide use has been made of the announcements. Several stations have supported the campaign with broadcast editorials.

The AMA opened its educational cam-

paign, saying that V.D. now has become this nation's "most urgent communicable disease problem."

The two most serious venereal diseases, syphilis and gonorrhea, are infecting 1,100,000 Americans a year—about 2,300 a day, or almost two a minute. Cases of infectious syphilis have almost trebled in this country in the past five years.

Complacency, ignorance, and a free-and-easy attitude toward moral standards, increasing use of alcohol and homosexuality are some of the reasons for the increase in venereal disease. Many young people simply aren't aware of the dangers of V.D.

Syphilis and gonorrhea can be easily cured. The cure for both diseases—penicillin—has been available since 1943. If a person suspects he may have contracted venereal disease, he should go to his physician immediately.

Diagnostic Laboratory Medicine

Blood Ammonia

Neuropsychiatric alterations associated with liver disease have been known since the time of Hippocrates. However, an understanding of their relationship has been slow in developing and is not fully understood even today. It was in 1860 that Frerick described "noisy delirium and coma" as a complication of cirrhosis. The significance of "meat intoxication" in dogs with Eck fistulas (portal-caval shunts) described in the 1890's was not generally appreciated until an acceptable method for the determination of blood ammonia (NH_3) was developed in 1935. Subsequently, elevated blood ammonia levels were related to the observations that protein, gastrointestinal hemorrhage, ammonium chloride and ammonium donating ion exchange resins contributed to hepatic coma. As a result, ammonia has been tentatively identified as the toxin that produced the neurologic changes associated with hepatic coma.

Hepatic coma or pre-coma is a syndrome characterized by disordered consciousness and confusion (the general features of organic psychosis), a flapping tremor of the outstretched hands, hypertonicity with flexor plantar responses and fetor hepaticus. The fetor hepaticus may be used to differentiate this condition from those with a similar picture but which are associated with renal, pulmonary or circulatory failure. Elevated ammonia levels are a major factor in producing such a state which is most frequently a complication of Laennec's cirrhosis.

The gastrointestinal tract, particularly the colon, is a major source of ammonia which is produced by the bacterial digestion of protein. The portal vein levels of ammonia rise phenomenally after protein loading. The amount of ammonia released in the gastrointestinal tract also varies with the type of protein available. The protein

of the red blood cells yields a far greater amount of ammonia than other proteins, although the available nitrogen is the same. Thus, gastrointestinal hemorrhage precipitates coma in patients with cirrhosis who have tolerated a normal diet. Therefore, total colectomy has been used to control ammonia levels when hepatic coma complicates portal-caval shunts.

Since the advent of the carbonic anhydrase inhibiting diuretics, a second source of ammonia that forms in the kidney tubules by deamination of protein has become increasingly important. Normally the ammonia formed in the kidney is used to accept hydrogen ions and thus functions to conserve body base. It is not surprising that the production of ammonia leads to gradient differences so that ammonia diffuses into the renal blood as well as into the tubule. This is supported by the observation that the renal vein ammonia level is higher than that in the artery. The amount of ammonia present in the renal vein thus depends on diffusion which in turn is dependent upon the pH difference between blood and urine. When the urine becomes less acid by the use of the carbonic anhydrase inhibitors, less ammonia is used to accept hydrogen ions in the tubules and the amount that diffuses into the blood becomes greater. The use of these diuretics in patients who have severe liver disease can precipitate hepatic coma by the mechanisms cited.

The detoxification of ammonia occurs in the liver where it enters the ornithine cycle as NH_3 and leaves as urea ($\text{NH}_2\text{-CO-NH}_2$). The urea formed in this manner is but a small proportion of the total urea excreted through the kidney. This mechanism has a tremendous reserve capacity. Therefore, hepatocellular damage alone is not sufficient to produce an elevated blood ammonia.

Elevated blood ammonia levels result when the liver disease is complicated by the

blood bypassing the normal portal circulatory route so that the conjugation of the ammonia does not occur. Such pathological "shunting" may occur at any point between the portal and systemic circulations. However, it is its predisposition to occur through the esophageal varices. This fact is the basis of the ammonia tolerance test of McDermott. Ammonium chloride is given orally and blood ammonia is measured at 45 minutes. A significant increase indicates portal systemic shunting and suggests esophageal varices. Its limited acceptance is partly due to the hazard of inducing hepatic coma.

The postulated biochemical explanation for the toxicity of ammonia is its effect on the citric acid cycle. Ammonia combines with α -ketoglutarate to form glutamate. The removal of α -ketoglutarate stalls the cycle and there is a diminution in the production of high-energy phosphates. Thus, normal cellular metabolism cannot occur and the cell may be temporarily or permanently injured. Glutamate will combine with ammonia to form glutamine. This is a detoxification mechanism with no deleterious effects and forms the rational basis for the suggested use of sodium glutamate in hepatic coma. The toxic effect of ammonia is therefore dependent upon its concentration within the cell.

The measurement of blood ammonia has been fraught with difficulties. It was not until 1935, when Conway developed the diffusion technique, that the measured levels were acceptable. Several methods used on diffusion are used currently. Variations in techniques, however, give a wide range of "normal" values. All of the methods measure the ammonia and ammonium ion in the blood as well as an amount of amide converted to ammonia which varies to give the different numerical values. The Conway method gives normal values up to $50 \mu\text{gm}\%$. The method of Seligson give a "normal" of about $135 \mu\text{gm}\%$. The problem of converting values from one system to the other has created much confusion in the literature

and makes evaluation difficult. An accepted method of conversion is to determine the difference in the normal values and correct by that difference. Thus a value of $150 \mu\text{gm}\%$ by Seligson's method may be converted to $65 \mu\text{gm}\%$ as determined by the Conway method. The values which follow in this discussion have been equated in this manner to a normal of less than $50 \mu\text{gm}\%$.

In 1955, Dr. Sheila Sherlock drew several conclusions from a large series of blood ammonia determinations that are still applicable today. She noted that 10% of patients in all stages of hepatic coma have normal values. It was also shown that the values were of no prognostic use since 50% of the patients in terminal coma had decreasing levels at the time of death. It has been pointed out frequently that the level of blood ammonia may not agree with the clinical stage of the coma or pre-coma. Some helpful generalizations, however, can be made from blood ammonia values. A value of $80 \mu\text{gm}\%$ indicates liver disease with portal-systemic shunts. A value of greater than $125 \mu\text{gm}\%$ indicates neurologic changes either have been or are present or that the patient has a portal caval shunt. A level of $175 \mu\text{gm}\%$ signifies manifest or impending "hepatic coma". Although the determination does not have the absolute quantification that one would like, it does contribute some helpful information with probable prognostic application.

Attempts to explain the occasional erratic correlation of blood ammonia with the clinical state have centered on other toxins, shock and drugs. The currently tenable explanation involves a consideration of plasma pH change. At pH 7.4 the ammonium ion is 99.9% ionized according to the equation $\text{NH}_4 \rightleftharpoons \text{NH}_3 + \text{H}^+$. According to the law of mass action when the H^+ is removed as would occur with an increase in pH the reaction will be driven toward the right and more free NH_3 available. This free NH_3 is able to penetrate the cell membrane fully while NH_4 is excluded. The increased intra-

cellular NH_3 interferes with the cellular metabolism as noted previously. Thus in alkalosis there may be a 100-200% increase in the ammonia (NH_3) available to diffuse into the cell. However, since the current laboratory techniques measure both NH_3 and NH_4 without distinguishing between them, the measured ammonia may be unchanged. Clinically, this would explain the observation that alkalosis is the precipitating factor in hepatic coma even when blood ammonia values were normal.

Blood ammonia is therefore a very important facet of liver disease, and a consideration of its metabolism is helpful in explaining the mechanism of the neuro-psychiatric changes. The interpretation of determined values, however, depends upon the clinical features of the patients rather than "in vitro" numbers. Numbers rarely give the diagnosis and the diagnosis of hepatic coma does not depend upon numbers.

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Richmond, Virginia*

Five Years . . . Five Million Dollars

The American prescription drug industry is characterized by unusually high research expenditures. From the time a promising compound is first examined in a research laboratory until the time it may finally be marketed, an average of five or six years of work are likely to be involved. The cost of research and development of a single new drug has been estimated to average about \$5 million. Money is, of course, also spent on promising new drugs which are ultimately discarded and never reach the market for one reason or another. For the drug industry as a whole, the odds are more than 6,000 to one that a newly discovered drug will never reach the market. In spite of these odds, the American drug industry has discovered, developed and marketed nearly two-thirds of the 604 new drugs made available world-wide since 1941.—Austin Smith, M.D., to Subcommittee on Patents, Trademarks, and Copyrights of Senate Judiciary Committee, June 1, 1965.

Current Currents

MEDICARE: The National Medicare Advisory Council has been appointed and is headed by former Budget Bureau Director Kermit Gordon. The sixteen member group includes non-physicians, and, although AMA and the American Academy of General Practice are represented, the majority do not appear unsympathetic to Medicare.

The Council contains such well-known names as Dr. Caldwell B. Esselstyn, a long time active campaigner for Medicare; Nelson H. Cruikshank, one of labor's masterminds in the Medicare struggle; and Dr. Jose A. Garcia, a long time friend of President Johnson.

In its meetings thus far, the Advisory Council has agreed that red tape should be kept at an absolute minimum. It also went along with the idea that hospital admission and release forms should qualify as certification for payment. The Council is tentatively backing the Social Security view that utilization review committees should have two principal duties: (1) screening individual cases in an effort to make sure that unfair advantage is not being taken of the law; and (2) studying general care patterns in an effort to cut costs, etc.

MEDICARE RESPONSE: The response thus far to medical insurance enrollment cards distributed by the Social Security Administration shows that approximately 87% of our over sixty-five population will participate in Part B of the Medicare program.

It is now estimated that the overall program—including Parts A and B—will pay about one-half of the total health care costs of the average individual over age sixty-five.

THIRD PARTY AGENCIES: Many individuals have wondered why the federal government would entrust the administration of Medicare to third party agencies. The law provides for carriers, sometimes called fiscal intermediaries, to handle both Part A and Part B of the program. Arthur E. Hess, Director of the Social Security Administration's Bureau of Health Insurance, recently attempted to answer this question when he said that this provision of the law represents "a conviction that voluntary organizations can grow to be entrusted with added responsibilities and become increasingly sensitive to the welfare of the whole public. Moreover, the program, by assuming a large part of the fiscal task of insuring the high-risk, low-income aged private insurance and prepayment organizations that have been struggling to provide adequate protection to the elderly, offers the opportunity to private insurance and prepayment organizations to move creatively in improving health benefits protection."

CONGRESS ON MEDICAL ETHICS: One of the most interesting and important meetings of the coming year will be held in Chicago on March 5-6, 1966. This will be the first National Congress on Medical Ethics and Professionalism, and will be sponsored by the American Medical Association. The Congress will be held at the Pick-Congress Hotel, and physicians interested in attending should write Dr. James H. Berge, Chairman, Judicial Council, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.

HATS OFF: This month we salute the physicians of Botetourt County, who have received many nice comments in the *Fincastle Herald*. C. H. Rieley, in his column known as "Randomgraphs", began his remarks as follows:

"Among the most outstanding, the most useful and the generally most beloved citizens of any community are its doctors. If a community does not have a lawyer, a baker or a candlestick maker it loses no sleep about it; but without a doctor it grows panicky and even fears to sleep at night.

"Botetourt, in its history has had many distinguished disciples of Galen and Hippocrates,"

WELCOME: Edd T. Hitt, new Executive Director of the Virginia Association for Mental Health, has assumed his duties. Mr. Hitt succeeds Dr. Abner Robertson, who retired July 1. His office is located at 3108½ West Leigh Street, Richmond 23230.

ACCIDENTAL FALLS: Each year, more than 19,000 people in this country die from injuries sustained in falls—a toll exceeded only by those deaths from motor vehicle accidents. The National Health Survey reveals that about 12 million persons annually suffer non-fatal injuries from falls serious enough to cause at least one day of restricted activity. Well over one-fourth of these injuries result in one or more days of bed disability. As a consequence of accidental falls, there are now some 3 million persons in this country suffering from an impairment of the back, limb, etc.

THIS AND THAT: Benjamin Franklin was an advocate of fresh air and is credited with being the originator of the modern art of ventilation.

In 1930, there were 450,000 children in this country under 18 who had lost both parents, but now due in part to medical care keeping people alive, the number is reduced to 63,000 such orphans despite an increase in the population of over 50 per cent.

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

A Proposal for the Use of Surplus Tuberculosis Sanatoria Beds

There is scarcely any more dramatic proof of the advance of tuberculosis treatment than the once-filled municipal tuberculosis hospitals which now stand closed or converted to other uses in cities across Virginia.

Close to 450 tuberculosis beds in these municipal sanatoria were gradually closed by the State Health Department after 1956. In that year the fourth and newest of the State tuberculosis sanatoria, the Ennion G. Williams Sanatorium Division, opened in Richmond within the Medical College of Virginia complex, a monument to long, earnest pleas for more tuberculosis beds by the Health Department and to the vigorous spadework done in the grassroots with legislators by local tuberculosis associations.

The Ennion G. Williams Hospital, Sanatorium Division, opened its doors just as the most hopeful chemotherapy yet found for tuberculosis (Isoniazid with PAS) was gaining wide application. Under the beneficent influence of this new combination of drugs, added to streptomycin introduced several years earlier, lesions were healing more rapidly, sputum becoming negative more quickly, and patients who had occupied beds for years were sent home to continue on drugs under local health department supervision. Others took their places and, as treatment time was cut in half, the once-long waiting lists dwindled. Sanatoria were able to treat double the number of patients in the same number of beds. It became feasible for the State sanatoria to gradually absorb the patient populations of municipal TB hospitals. Treatment of these patients had long been partially subsidized by the State; during the final days before the

changeover, their care was entirely supported by State funds.

As treatment of tuberculosis patients stabilized, old pavillions on State sanatoria grounds, formerly used to house ambulant patients, were closed and other sub-standard buildings shut down. By this time patients well enough to walk to meals were usually considered well enough to continue on drugs at home, and the beds intended for ambulatory patients were no longer needed. In each of the sanatoria today, care and treatment are centralized in one hospital building to the mutual benefit of staff and patients. Each sanatorium operated at or near capacity of all infirmary beds for a number of years; more recently the total population census has been decreasing at a rate of about 5% per year.

Recommendations for possible consolidation of the Catawba and Blue Ridge sanatoria were made to the Governor and the Virginia General Assembly in 1962 by the Commission for Economy in Governmental Expenditures. These recommendations were not acted upon at that session because they were not sanctioned, and were indeed opposed, by the concerned voluntary citizen agencies and The Medical Society of Virginia. These agencies believed that the recommendations were made without the medical and public consideration warranted by the proposed move.

A special committee representative of these groups,* in consultation with the State Health Department, then made a study of the sanatoria and reported in 1963 that closing of any of the tuberculosis hospitals

*The Medical Society of Virginia
Virginia Tuberculosis Association
Virginia Thoracic Society
Virginia Conference of Tuberculosis Workers

would be "premature at this time".

However, the study also emphasized that "in the interest of economy it is important that plans be made for the utilization of all vacant hospital beds. Sanatoria beds are admirably suited . . . for the care of indigent and medically indigent patients with non-tuberculous chest diseases."

The past decade has seen an extraordinarily rapid rise in other non-tuberculous diseases of the chest—notably in pulmonary emphysema which has increased more than six-fold in ten years. In 1952 there were 1,914 deaths in the United States with emphysema given as the primary cause; in 1962 there were 12,350 deaths from the same cause. And in Virginia, based on National Health Survey estimates, figures indicate emphysema has increased 110% since 1961. The mounting death toll and disability resulting from emphysema, chronic bronchitis, and cardiopulmonary conditions makes this group of "non-tuberculous chest diseases," which can be materially benefited by appropriate treatment at the right time, a constellation of the first magnitude.

Unhappily, from the State taxpayer's point of view, a great number of the people who suffer from one or more of these conditions to the extent that they require some hospitalization are unable to pay for their care. For them the State must pick up the

tab. To pay for the care of such patients at today's general hospital rates is already extremely costly; the prospect of caring for tomorrow's burgeoning number of patients with chest diseases capable of responding to treatment, at tomorrow's hospital rates, staggers the imagination.

It seems, therefore, wise to look now with renewed vision at the recommendation made on sanatorium bed use in 1963 by the Special Study Committee and just recently embodied in action on legislative aims by the board of directors of the Virginia Tuberculosis and Respiratory Disease Association at its meeting October 14, 1965:

"That as bed vacancies occur in our tuberculosis sanatoria they may be made available for the care of indigent or medically indigent non-tuberculous chest patients who have been carefully screened from the standpoint of diagnosis, evaluation of treatment needs and prospects for rehabilitation, and who would benefit from short-term periods of hospital care."

Indigent patients with chest disease cannot only be treated as or more adequately in the sanatorium where staff training and facilities uniquely fitted to their needs are to be found, but this care can be given at approximately half the cost of treatment in general hospitals.

MONTHLY REPORT OF BUREAU OF COMMUNICABLE
DISEASE CONTROL

	Oct. 1965	Oct. 1964	Jan.- Oct. 1965	Jan.- Oct. 1964
Brucellosis -----	1	1	9	17
Diphtheria -----	0	0	0	0
Hepatitis -----	82	41	689	469
Measles -----	54	41	4404	13200
Meningococcal				
Meningitis -----	6	8	60	52
Meningitis (Aseptic) ----	3	8	15	18
Poliomyelitis -----	0	4	0	4
Rabies (In Animals) ---	11	26	295	281
Rocky Mt. Spotted Fever--	2	0	41	34
Streptococcal Infections--	777	713	9372	8908
Tularemia -----	0	1	8	6
Typhoid Fever -----	0	0	8	11

Correspondence

Cigarette Smoking and Cancer of the Bladder.

TO THE EDITOR:

In an article on this subject, published by B. G. Cobb and J. S. Ansell (JAMA 193(5): 329, August 1965), it is suggested that the increased incidence of cancer of the bladder is caused by smoking of cigarettes. It is assumed that because of precautions taken by the industry, the occupational aniline cancer of the bladder is practically nonexistent.

I would like to quote Gillman's Organic Chemistry (2nd edition, volume 1, page 901): The amines may usually be recovered from the sulfonamides in good yield (90-95%) by refluxing them for 10 to 36 hours with 25% HCl, $\text{ArSO}_2\text{NHR} - \text{H}_2\text{O} \xrightarrow{\text{HCl}} \text{ArSO}_3\text{H} - \text{RNH}_2\text{HCl}$; $\text{ArSO}_3\text{H} \xrightarrow{\text{H}_2\text{O}} \text{ArH} - \text{H}_2\text{SO}_4$. In the sulfanilamide derivatives used in the treatment of infectious diseases, the ArH which develops when these drugs are

brought in contact with HCl is, of course, aniline! That even the contact with HCl produces small amounts of aniline is suggested by the tests developed by me for the determination of the sulfonilamides. (Virginia Medical Monthly 69:334, June 1942)

Further experiences have shown that other sulfonamides as those used in the treatment of diabetes and hydrothiazides do not give that test. While the amount of aniline which usually develops during the fleeting contact with the HCl of the gastric juice is much less than 90-95% it is obviously greater than the amount of beta-naphthylamine contained in the cigarette smoke even in heavy smokers.

Tobacco has been smoked since Columbus discovered America. The marked increase in the incidence of cancer of the bladder has taken place since the introduction of sulfanilamide derivatives in the treatment of infectious disease!

LEO I. HALLAY, M.D.

Ft. Blackmore, Virginia

Voluntary Health Conference Scheduled

Changing relationships in the voluntary health movement will be the theme of a national invitational conference in Chicago, February 16-17, 1966, sponsored by the American Medical Association Council on Voluntary Health Agencies.

The conference will consider the influence of present and future voluntary and public forces on health agencies.

Subjects to be considered include communications and public attitudes, community planning, expenditures, legal patterns, continuing professional education, and relation-

ships between government and volunteerism.

Those invited include more than 300 representatives of the medical profession, national organizations, voluntary health and welfare agencies, business, labor, government, and education.

The conference will convene with a major address entitled, "Horizons in Communications and their Application to Public Attitudes," following a reception and dinner Wednesday evening, February 16. Four general sessions and two major addresses will follow on the 17th.

The Medical Society of Virginia . . .

Minutes of Council.

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. McLemore Birdsong, President, at 10:00 A.M. on Sunday, September 26, 1965, at Society Headquarters. Attending were: Dr. Alexander McCausland, Dr. Richard E. Palmer, Dr. Harry M. Frieden, Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. Kinloch Nelson, Dr. F. Ashton Carmines, Dr. Thomas W. Murrell, Jr., Dr. A. Tyree Finch, Dr. W. Nash Thompson, Dr. Harry B. Stone, Jr., Dr. Dennis P. McCarty, Dr. Guy F. Hollifield, Dr. W. W. Walton and Dr. Michael A. Puzak. Also attending were: Dr. Thomas S. Edwards, Third Vice-President; Dr. W. Callier Salley, Vice-Speaker of the House; Dr. W. Linwood Ball, Dr. Allen Barker and Dr. Vincent W. Archer, Delegates to the American Medical Association; Dr. Russell M. Cox, Secretary of the State Board of Medical Examiners; Dr. Kenneth R. Crispell, Dean, University of Virginia School of Medicine; Mr. John B. Duval, Attorney for the Society; Mr. Richard Nelson, Field Service Representative of the American Medical Association; and Dr. William S. Hotchkiss, Norfolk, representing Dr. K. K. Wallace in his capacity as Councilor from the Second Congressional District.

The first matter to be discussed concerned future plans of VaMPAC. Dr. Edwards stated that the loss of Mr. Smith had resulted in the hiring of Mr. Harry Lee Winters as full-time Executive Director. The hope was expressed that Mr. Winters would be able to bring about a notable increase of VaMPAC members and bring the organization to a point where it could be self-sustaining for all practical purposes. Dr. Edwards stated, however, that operating expenses would be badly needed in the foreseeable future, and requested that Council authorize a \$12,000 appropriation for fiscal 1965-66.

Dr. William R. Hill, Secretary-Treasurer of VaMPAC, was introduced, and he stated that the political action committee movement was needed now more than ever before. It was his feeling that VaMPAC provided Virginia physicians the most effective means for accomplishing their legislative objectives.

A motion was then introduced which would have Council approve the \$12,000 appropriation for 1965-66. The motion was seconded. Following a brief discussion during which it was learned that none of

this money would be used for candidate support, the motion was adopted.

The question of how best to bill VaMPAC membership was discussed, and Dr. Edwards expressed the hope that VaMPAC dues could be included on the Society's annual dues statement. It was learned that results have been good in states where this method has been employed. *Following considerable discussion during which some objections were noted, a motion was offered by Dr. Puzak which would include VaMPAC dues on the Society's annual statement. The motion was seconded and adopted.*

Mr. Duval expressed the opinion that special care should be taken to keep completely separate records and make sure that the Society was reimbursed for any expense incurred in connection with the VaMPAC operation.

Council was advised that recent redistricting had posed certain problems as far as the makeup of Council was concerned. At least one District Councilor will reside in another District when the recently passed law becomes effective sometime in December. Mr. Duval stated that there appeared no reason why the present Council should not remain intact and undisturbed through the annual meeting. The By-Laws provide that a Presidential appointment can be made when it is necessary to replace a Councilor in the interim between annual meetings.

Next to be considered was the controversial issue of non-participation in Medicare. It was explained that the AMA House of Delegates had grappled long and hard with this problem during its June meeting in New York, and had decided to adopt a "wait and see" policy. The thought was expressed that any group action of a drastic nature would be premature at this time, and might well place such a group in conflict with antitrust laws. It was emphasized, however, that physicians are still free to act individually as they wish. Also brought out was the fact that no one seems really to know at this time just how Medicare will be administered. Various AMA task forces are hard at work and can be expected to make certain concrete recommendations to HEW in the near future.

Dr. Shanholtz stated that the State must eventually designate what agencies will administer certain parts of the Medicare law. *It was his recommendation that an effort be made to have the Governor request a joint committee composed of representatives*

of *The Medical Society of Virginia, Blue Cross-Blue Shield, the Virginia Hospital Association and the commercial insurance industry. The committee would study the Medicare situation and advise the State Health Commissioner of its recommendations. Such a motion was formally introduced by Dr. Shanholtz and seconded. During the discussion, it was learned that The Medical Society of Virginia already has a Special Medicare Committee appointed at the request of the President of AMA. Dr. Shanholtz's motion was then adopted.*

There followed a motion which would have the Society take no action on the question of non-participation at this time. The motion was seconded and adopted.

Council then turned its attention to the heart, cancer, stroke legislation currently under consideration in the Congress. Dr. Birdsong explained that the subject had been referred some months ago to the Committee on Medical Education for its study and recommendations. Dr. John Watson, Chairman of the Committee, was introduced and requested to report on his Committee's deliberations. His report pointed out that the House Bill (H. R. 3140) bore little resemblance to the bill already passed by the Senate (S. 596). It has been changed drastically and offers a much different and more acceptable approach to the problem. The report also pointed out that the House Bill provides for a relationship between teaching centers and the non-university medical community, and stresses continuing postgraduate education. Dr. Watson went on to state that the original concept of local treatment centers has been eliminated. Also, no funds have been provided for new construction.

The Committee report contained the following resolution:

"It was moved that the Committee on Medical Education endorse the revision of H. R. 3140 (dated September 8, 1965), which allows for planning money for feasibility studies through a grant to encourage and assist in the establishment of regional cooperative arrangements among medical schools and community medicine for continuing education and training of the medical profession in the State of Virginia on a Statewide basis."

There followed considerable discussion during which the AMA arguments against S. 596 were noted. Dr. Nelson and Dr. Crispell explained the role of state planning committees and stated that Virginia was one of the leaders in this regard. Some members

of Council voiced concern as to how such legislation might affect private practice. The question was also raised as to just how patient care would finally fit into the complete picture.

The thought was expressed that the Department of Health, Education and Welfare would hardly be satisfied with the legislation as it is written, and would certainly press for more at an early date. Dr. Palmer stated that our continuing education programs are excellent and most always oversubscribed. It was his feeling that we should develop a positive action program and let the public know exactly what medicine is doing. Dr. Carmines believed that the problem properly belonged to Virginia and not the federal government. He expressed the feeling that our main concern should be providing better care and service for patients.

As the discussion continued, Dr. Walton offered the opinion that medicine should seek a solution to the nursing shortage. Any new program would be pointless without adequate nursing personnel.

Council was informed that the Albemarle County Medical Society would, in all probability, introduce a resolution endorsing the revised version of H. R. 3140.

It was then moved and seconded that the resolution contained in the report of the Committee on Medical Education be approved by Council.

Dr. Puzak then introduced a substitute motion thanking and congratulating the Committee on its work and directing that the report be presented to the House of Delegates in accordance with established procedure. The substitute motion, seconded by Dr. Stone, was adopted.

Dr. Cox was then requested to discuss with Council certain proposed changes in the Medical Practice Act. He stated that a number of the proposed changes had come about as a result of previous Council action—particularly in the disciplinary area. Included among the amendments were proposals to (1) reduce the chiropractic representation on the Board of Medical Examiners; (2) enlarge and make more explicit the authority of the Board where disciplinary hearings and investigations are concerned; (3) remove pharmacology from Part II and place it in Part I of the examination; (4) give the Board authority to censure, reprimand, or place on probation, and add incompetency as ground for Board action; (5) define more clearly those acts which constitute unprofessional conduct; (6) make it the duty of every practitioner to report to the Board the professional treatment for alcohol or drug addiction of

any person licensed to practice any of the healing arts in Virginia—if the patient is hospitalized for his condition; (7) set up a special committee of the Board to handle minor offenses on an informal basis; (8) establish procedures applying to cases of censure, reprimand, etc.; and (9) deny the right to practice within the State to a practitioner whose license was suspended or revoked—pending application for review and during proceedings in the courts. This change would make the order of the Board effective until stayed by the court in review proceedings.

Dr. Cox was asked whether the license of a practitioner could be revoked because of unreasonably high fees. It was learned that little can be done in such cases unless fraud and deceit could be proved.

A motion was then introduced which would have Council thank Dr. Cox and his Committee for a very thorough report and refer it to the House for necessary action. The motion was seconded and adopted.

Council learned that the State Board of Pharmacy has indicated that it will take action against those physicians not complying with the Pharmacy and Drug Statutes of Virginia—particularly as they pertain to the dispensing of drugs. During discussion of the problem, it was brought out that the statutes controlling the dispensing of drugs have existed for a number of years. Physicians practicing in communities with populations of 1,000 or less can dispense drugs, but must obtain a license.

It was agreed that information concerning the laws in question should be disseminated to physicians throughout the State. It was suggested that this information be sent by the Board of Medical Examiners in order to reach all physicians. Otherwise, the information would only be made available to members of The Medical Society of Virginia.

Dr. Thompson moved that the Board of Medical Examiners be requested to send copies of the pertinent statutes to all physicians in the State for their information and guidance. The motion was seconded and carried.

When Council met on February 12, 1964, it went on record as opposing paid announcements or advertisements in local newspapers. This action had been based upon the fact that such announcements are considered unethical in many areas of the State. Following this action, a number of component societies noted opposition. The feeling was expressed that the Council decision would eliminate the listing of specialties in the classified section of the telephone directory. Another feared that such policy would keep

a physician from being listed as a sponsor for civic projects, etc.

It was moved that the matter be referred to the Ethics Committee with the request that it spell out a broad State policy for the guidance of local medical societies. The motion was seconded and adopted.

Next on the agenda was the subject of the battered child syndrome. Council was advised that considerable interest has been voiced about the State concerning the possibility of obtaining legislation which would permit physicians, and others, to report cases of neglect and injury without incurring liability. Several resolutions are scheduled for presentation during the annual meeting. Mentioned was the fact that only six states do not, at the present time, have such laws in effect.

It was moved that the matter be referred to the House of Delegates for action and, further, that Mr. Duval be requested to develop an acceptable bill should the need be indicated. The motion was seconded and adopted.

As a matter of information, Council was informed that some objection had been noted to use of the word "Doctor" by certain non-medical practitioners. One group of physicians in Northern Virginia have stated that the public is, in some cases, being deliberately misled. It is probable that a resolution bearing on the problem will be introduced in the House of Delegates.

Council was asked to review the question of whether Mr. Duval should register as a legislative agent during the 1966 session of the General Assembly. Although this has not been done in the past, some members of the Legislative Committee have expressed the feeling that this might be advisable. Dr. Duval pointed out that a recently enacted statute governing lobbying in Virginia is quite strict and could pose a problem. *Dr. Nelson moved that Mr. Duval register as a legislative agent (lobbyist). The motion was seconded by Dr. Walton and carried.*

Next to be considered was the problem posed by the rapidly increasing number of motorcycles on our streets and highways. All areas of the State have been affected to some degree, while others, such as Norfolk, have seen the problem reach major proportions. Dr. Hotchkiss pointed out that countries such as England and Italy have taken steps to solve their problems by requiring motorcycle riders to wear helmets and certain clothing. It was also brought out that those countries require adequate lighting, etc., for night-time identification.

A motion was then introduced which would refer

the matter to the Committee on Traffic Safety. The motion was seconded and adopted.

Next on the agenda was a request from the Medical College of Virginia Chapter of the Student AMA for a contribution of \$150. This money would help the Chapter sponsor a special conference of Student AMA representatives from the Southeastern United States. *Everyone agreed that this was a most worthwhile project, and a motion by Dr. Murrell to grant the request was seconded and adopted.*

The following resolution, as referred to Council by the Augusta County Medical Society, was considered:

"WHEREAS—the health and physical fitness of minors is the responsibility of the parents; and

"WHEREAS—nevertheless it has become customary for certain organizations which sponsor youth athletic and camping programs to require physical examinations; and

"WHEREAS—in many instances mass physical examinations have been organized; and

"WHEREAS—furthermore the inferior mass type of examination may give parents a false sense of security regarding their children's health; now therefore be it

"RESOLVED—that organizations sponsoring youth athletic and camping programs should simply require written permission from the parents; and be it further

"RESOLVED—if such organizations nevertheless do require physical examinations, that such examinations should be done on an individual rather than a mass basis."

Dr. McCausland moved that Council give the motion its common consent. The motion was seconded. During the discussion, it was brought out that The Medical Society of Virginia had recently, in conjunction with the Virginia High School League, sponsored a well received Conference on the Medical Aspects of Sports. The Conference, which will quite likely be an annual affair, deals with matters such as the Augusta resolution.

When the motion calling for common consent was declared dead, Dr. Palmer moved that the resolution be referred to the Public Relations Committee, and any others which might be concerned, for further study and recommendations. The motion was seconded and carried. Pointed out was the fact that the Public Relations Committee had arranged the Conference on the Medical Aspects of Sports.

Council then turned its attention to the "Rules of

Procedure" for the House of Delegates. In carrying out an earlier Council request, Dr. Nelson had made certain recommendations designed to improve the Reference Committee system. Two principal objectives were to ease the load imposed upon the Committees, and to broaden Committee membership by including some members of the House of Delegates.

It was Dr. Nelson's feeling that three Reference Committees could best do the job. By utilizing the 17 voting members of Council and ten delegates to be elected during District caucuses, each Committee would have nine members. The President, Speaker and Vice-Speaker would serve as Committee Chairmen. Also, each Committee would have certain specific areas of responsibility.

Council was advised that the Executive Committee had given a great deal of consideration to Dr. Nelson's recommendations, and had several suggestions to make. First of all, the number of Committees would not be increased. Committee makeup would be restricted to the ten District Councilors and ten members of the House, selected by District caucus (one to be elected from each District with elections on an annual basis). It was also suggested that the Speaker and Vice-Speaker serve as Chairmen, and that Society officers and non-elective members of Council be excluded. It was also recommended that no two members from the same District serve on the same Reference Committee.

Other recommendations would have Reference Committees make decisions in executive session; request the Speaker to always instruct Committee members concerning their responsibility; and make sure that they only ask questions and do not participate in discussions and debates.

During the ensuing discussion, the feeling was expressed that the two Reference Committees were not sufficient to handle the ever increasing volume of work. Also, it was suggested that the Speaker always be permitted to assign the various items to the Committees.

A motion was then offered by Dr. Puzak which would provide three Reference Committees, with total membership composed of the ten District Councilors and ten delegates—one from each Congressional District. Committee Chairmen would be the Speaker, Vice-Speaker and First Vice-President. The motion was seconded.

A question was raised concerning the advisability of making the First Vice-President a Committee Chairman, since he is not in a continuing capacity. This led to a proposed amendment by Dr. McCarty which would permit the Third Committee Chairman

to be appointed by the Speaker at each session. This amendment was seconded.

Another amendment was offered providing that one delegate be appointed at large by the Speaker in order to balance the membership of each Reference Committee (seven members for each). There was no second.

Dr. Murrell then proposed an additional amendment which would have the Third Committee Chairman appointed from among the non-elected members of Council. The proposed amendment was seconded.

Following considerable discussion, it was decided that all motions should be withdrawn in order that the original could be restated. This was accomplished.

Dr. Puzak then moved that the "Rules of Procedure" be changed to provide for three Reference Committees, with overall membership composed of the ten District Councilors and ten members of the House, to be elected annually during District caucuses (one delegate from each District). The motion further provided that Reference Committee Chairmen would be the Speaker, Vice-Speaker and an appointee from among the other members of Council. Committee membership would be balanced by the appointment of a member at large by the Speaker. The motion was seconded.

An amendment was then offered by Dr. McCarty which would leave the matter of a third Committee Chairman to the Speaker. The amendment was seconded but did not carry.

A vote was then taken on Dr. Puzak's restated motion, and it was adopted.

Dr. Salley was requested to revise the "Rules of Procedure" with an explanation of the various changes. A motion by Dr. Palmer that the explanation be written into the "Rules" was seconded and adopted.

Council then approved a resolution that no two members from the same Congressional District serve on the same Committee. The resolution also would request the Speaker to instruct Committee members concerning their responsibilities, and to assign the various matters for consideration. Also included was a request that all decisions be made in executive session and that Reference Committee members refrain from actively participating in discussion and debate.

A question was raised concerning whether meetings of the House should be closed. There existed a considerable difference of opinion on the subject, but everyone agreed that care should be taken that a proper channel for news should always be maintained for the press.

A motion was then introduced which would close sessions of the House of Delegates to all except members of The Medical Society of Virginia. The motion was seconded and carried.

A similar question was raised concerning Reference Committee sessions, and a motion was made that attendance also be restricted to members of The Medical Society of Virginia. This motion was seconded and adopted.

There being no further business, the meeting was adjourned.

Minutes of Council

A meeting of the Council of The Medical Society of Virginia was called to order by Dr. McLemore Birdsong, President, at 10:00 A.M. on Sunday, October 10, 1965, at Richmond's Hotel John Marshall. Attending were: Dr. Alexander McCausland, Dr. Richard E. Palmer, Dr. Harry M. Frieden, Dr. Mack I. Shanholtz, Dr. Harry J. Warthen, Dr. Kinloch Nelson, Dr. K. K. Wallace, Dr. Thomas W. Murrell, Jr., Dr. A. Tyree Finch, Dr. W. Nash Thompson, Dr. Harry B. Stone, Jr., Dr. Dennis P. McCarty, Dr. Guy Hollifield, Dr. W. W. Walton and Dr. Michael A. Puzak. Also attending were: Dr. Boyd H. Payne, 2nd Vice-President; Dr. Thomas S. Edwards, 3rd Vice-President; Dr. W. Callier Salley, Vice-Speaker of the House; Dr. Vincent W. Archer, Dr. W. Linwood Ball and Dr. Allen Barker, Delegates to the American Medical Association; Dr. Russell M. Cox, Secretary-Treasurer of State Board of Medical Examiners; Dr. Kenneth R. Crispell, Dean, University of Virginia School of Medicine; Dr. J. D. Hagood, Past-President and Chairman of Legislative Committee; Mr. John B. Duval, Attorney for the Society; and Mr. Richard Nelson, Field Representative of the American Medical Association.

Dr. Birdsong introduced Mrs. W. Nash Thompson, President of the Woman's Auxiliary to The Medical Society of Virginia, and Mrs. George W. Kelly, President-Elect of the Auxiliary. Mrs. Kelly asked Council for its support during the coming year and expressed the wish that physicians would let their wives know how much they are needed during these days when nothing less than a maximum effort is acceptable. Mrs. Kelly was asked to deliver essentially the same message to the House in the afternoon.

Dr. Birdsong explained that, following the Council meeting on September 26, a great deal of thought has been given to the matter of closed meetings for the House of Delegates. It had been learned that such a policy would pose a definite problem where visitors and guests are concerned, and he requested

that the matter be given serious reconsideration. Consequently, Dr. Palmer moved that the policy of closed sessions be reconsidered. The motion was seconded.

During the ensuing discussion, it was brought out that the Society rarely has anything to withhold. It was also brought out that the House can always go into executive session, should such action seem advisable. Dr. Palmer's motion was then adopted.

Mr. Duval was requested to comment on a law recently enacted in North Carolina which seems to have certain far-reaching implications. The law represents a new approach as to what services must be covered under any medical service plan. In this particular instance, services of oral surgeons must be included. Dr. Duval did not believe that oral surgeons in Virginia plan to seek similar legislation but expressed the feeling that one or two other practitioner groups might.

Dr. Murrell stated that the osteopaths are quite concerned over their inability to obtain recognition where Blue Shield is concerned. He read a letter which indicated that some osteopaths feel their profession is being downgraded.

There followed considerable discussion on the problem, and it was learned that the American Medical Association has compiled a great deal of material on the subject. Brought out was the fact that approximately 47 Blue Shield Plans over the country now pay for certain services provided by osteopaths. Also brought out was the fact that oral surgeons in Virginia are paid under an extra contractual arrangement.

Dr. Finch then moved that the discussion be terminated and that Dr. Salley be requested to prepare a detailed report for presentation at an early date. The motion was seconded.

Dr. Wallace then suggested that the motion include a request that a special committee be appointed by the President to study the problem thoroughly. Dr. Finch was agreeable to this change, and the motion was adopted.

Next to be considered was the role of Blue Shield in Medicare. Council was advised that the American Medical Association had recently encouraged Blue Shield Plans to assume an important role in the medical-surgical portion of the program. It was emphasized, however, that AMA had left to the states the prerogative of recommending a fiscal intermediary.

Mr. Robert Denzler, Executive Director of the Virginia Medical Service Association, was introduced

and stated that Blue Shield could bring to the program a tremendous amount of experience. He pointed out that The Medical Society of Virginia did have some control since it does elect 12 members of the Virginia Medical Service Association Board. He went on to say that the Virginia Medical Service Association already covers some 60,000 Virginians over age 65.

A number of questions were raised concerning just what the role of the fiscal intermediary would be, and it was conceded that many of the mechanics are still to be worked out. Mr. Denzler made it clear that he spoke only for the Virginia Medical Service Association.

Council was advised that a Special Medicare Committee had been appointed at the request of AMA. Dr. McCausland explained the purpose of the Committee and stated that it would have wide representation.

A motion was introduced by Dr. Wallace that Council delay recommending a particular fiscal intermediary until the Medicare Committee could consider the matter and make its recommendations known. The motion was then re-worded to permit the Executive Committee to receive the recommendations of the Medicare Committee and then take such action as it might believe advisable. The motion was seconded and adopted.

Dr. Walter Porter, Chairman of the Finance Committee, presented a brief financial statement, and reviewed the proposed budget for 1965-66. He suggested that Council give some thought to a possible change in the Society's fiscal year. It would, in his opinion, be advantageous to have the fiscal year begin either on September 1 or September 15. This would provide the auditor more time to prepare his detailed report before the Annual Meeting.

It was learned that the Society had sufficient funds in its checking account to invest possibly \$50,000 in divided savings accounts. A question was raised concerning convention expense, and it was suggested that a more detailed breakdown be prepared where this particular item is concerned.

Travel expenses were discussed, and it was determined that the allowance for auto travel should be increased from 8¢ to 10¢ per mile. Brought out was the fact that 8¢ per mile is no longer realistic and an increase is overdue.

A number of questions were raised concerning the funds budgeted for VaMPAC. Made clear was the fact that any contribution by the Society must be designated for educational rather than political pur-

poses. It was also mentioned that the American Medical Association feels that a state society runs very little risk in making such contributions. It was agreed that the need for VaMPAC is perhaps even greater now than ever before.

Dr. Cox, commenting on expenses incurred by the Board of Medical Examiners in preparing legislation, expressed the hope that the Society would be willing to help meet the cost should the need arise. He explained that the Board had been put to considerable expense in recent weeks, and that one hearing alone had proved very costly. He was particularly anxious to have assurance that the Society would give the Board financial assistance if requested.

Dr. Thompson moved that Council take no action at this time, but that the Executive Committee be authorized to act should a request be received from Dr. Cox. The motion was seconded and carried.

In considering possible additions to the budget, Council was asked whether The Medical Society of Virginia, with five full-time employees, was required to seek coverage under Workmen's Compensation. Mr. Duval indicated that the Society is not required to participate at the present time. He went on to state that this is not the case, however, where Unemployment Compensation is concerned. It was agreed that the Executive Secretary should look into the matter in order to bring the Society into compliance with Virginia law. *A motion which would authorize the Executive Committee to take any action necessary in this regard was seconded and adopted.*

A motion was then introduced for approval of the proposed budget. The motion was seconded and adopted.

Council was advised that the Society's supplemental sickness and accident program, as underwritten by the Fireman's Fund, faced possible cancellation. This situation had arisen as the result of a merger between this Company and another. As a result, the Program Administrator had made arrangements with the Insurance Company of North America to take over the entire program with very little change. It was learned that the Society's Insurance Committee had reviewed the situation and recommended that the proposed changeover be approved.

A motion to approve the Insurance Company of North America as the new underwriter was seconded and adopted.

Considered next was a location for the 1969 Annual Meeting. It was learned that invitations had been received from both Virginia Beach and Norfolk—that from Virginia Beach having arrived first.

Discussion brought forth the fact that October meetings are preferred if at all possible. Dr. Walton expressed the wish that conflicts with the World Series be avoided, but a motion to that effect was lost for want of a second.

Dr. Puzak then moved that the 1969 Annual Meeting be held in Virginia Beach, and that an October date be selected. The motion was seconded by Dr. Stone and adopted.

Dr. Salley reviewed "Rules of Procedure" for the House of Delegates which had been re-written in keeping with recommendations made by Council on September 26. The changes, for the most part, had to do with the number and makeup of Reference Committees. *A motion to adopt the "Rules of Procedure" as presented was seconded and adopted.*

Dr. Thompson then presented a resolution pointing out the urgent need for additional general hospital beds in Virginia and the shortage of funds necessary to erect facilities. The resolution would have The Medical Society of Virginia request the Secretary of Health, Education and Welfare, and our Senators and Congressmen, to do everything possible to provide the needed additional funds through the Hill-Burton Act.

Dr. Thompson also presented another resolution of a similar nature. This resolution would have the Society seek legislation in the General Assembly providing State funds to supplement Federal Hill-Burton funds.

During the considerable discussion which followed, it was pointed out that funds were badly needed if sufficient facilities were to be provided to meet the anticipated demand for hospital beds after July 1, 1966—the date Medicare becomes effective.

A motion by Dr. Walton to accept the resolutions and refer them to the House was seconded. Some opposition was noted, however, where the first resolution was concerned. This had to do with the request for Federal participation. *As a result, a substitute motion was made that the resolutions be voted upon separately. The substitute motion was seconded and carried.*

Approval of the first resolution, which requested additional Federal funds, was lost. *The second resolution, which would request the General Assembly to appropriate additional funds to augment Federal Hill-Burton funds was then adopted.*

Considered next was a resolution sponsored by the Virginia Radiological Society. The resolution provided for the separation of professional fees from hospital charges, and encouraged radiologists to strive

for arrangements under which they could accept full responsibility for establishing, presenting and collecting fees for their professional services.

A motion to approve the resolution was introduced by Dr. Frieden and seconded. Dr. Palmer then called attention to a companion resolution sponsored by the Virginia Society for Pathology which also called for separation of professional fees from hospital charges. The resolution also emphasized that hospital-based medical specialists are engaged in the practice of medicine. Dr. Frieden's motion was then adopted.

A slate of nominees for the VaMPAC Board of Directors was presented. It was brought out that the 9th District embodies a wide area, and an additional Director might be advisable. Dr. Walton then nominated Dr. W. C. Elliott, Lebanon, as an additional Director for the 9th District. *A motion to elect the following slate was then seconded and adopted:*

District Chairmen

- 1st District: Dr. Harold L. Williams, Newport News
- 2nd District: Dr. R. Bryan Grinnan, Jr., Norfolk
- 3rd District: Dr. William R. Hill, Richmond
- 4th District: Dr. William Grossmann, Petersburg
- 5th District: Dr. Joseph W. Milam, Danville
- 6th District: Dr. John A. Martin, Roanoke
- 7th District: Dr. Monford D. Custer, Jr., Winchester
- 8th District: Dr. White Mck. Wallenborn, Charlottesville
- 9th District: Dr. C. C. Hatfield, Saltville
Dr. W. C. Elliott, Lebanon
- 10th District: Dr. James M. Moss, Alexandria

Members at Large

Dr. Thomas S. Edwards, Charlottesville
Mrs. James M. Moss, Alexandria
Dr. William H. Barney, Lynchburg
Mr. Thomas R. Holland (Pharmacy)
Mr. Floyd A. Robertson (Pharmacy)
A. J. Mallis, D. D. S.
Kenneth M. Haggerty, D. D. S.

The attention of Council was called to the fact that the new redistricting law becomes effective December 3. This meant that Dr. Hollifield could remain as Councilor from the 8th District until that time, should he so desire. Society By-Laws provide that the President "shall fill any vacancy occurring between annual sessions in the Council . . . and such

appointments shall be valid until the end of the next annual session. . . ."

Dr. McCausland advised Council that it might wish to consider another facet of the recently enacted PL 89-97 (Social Security Amendments of 1965). In addition to its basic Medicare provisions, this law also opens up new possibilities where the existing Kerr Mills law is concerned and it could well be that new enabling legislation will be needed if Virginia is to participate to the maximum extent possible.

Dr. McCausland called attention to what other states—notably California—are doing along this line and expressed the wish that Mr. Duval check the new law and determine what course of action Virginia should follow.

There being no further business, the meeting was adjourned.

Minutes of the House of Delegates

FIRST SESSION

The House of Delegates of The Medical Society of Virginia met in Exhibit Hall "A" of Richmond's Hotel John Marshall on Sunday, October 10, 1965, and was called to order at 2:00 P.M. by Dr. McLe-more Birdsong, President.

Dr. Birdsong introduced Dr. Kinloch Nelson, Speaker of the House. Dr. Nelson requested a report from Dr. J. A. White, Chairman of the Credentials Committee, and was informed that a quorum was present.

The minutes of the October, 1964, sessions of the House were approved as published in the December, 1964, issue of the Virginia Medical Monthly.

Mrs. W. Nash Thompson, President of the Women's Auxiliary to The Medical Society of Virginia, was introduced. Mrs. Thompson presented a most interesting report on the many fine things accomplished by the Auxiliary during the year. The various fund raising activities were of particular interest. She stated that Auxiliary members over the State were ready to help physicians at any time with their many programs.

Mrs. George W. Kelly, President-Elect of the Auxiliary, acquainted the House with available material which explains Auxiliary activities. She told of the need for a more complete organization of physicians' wives over the State, and asked the Delegates for their assistance.

The Speaker then introduced delegates from allied organizations. Dr. Charles R. Crews, Radford, represented the Virginia State Dental Association; Mr.

Robert Lawrence, Fredericksburg, represented the Virginia Pharmaceutical Association; Miss Katherine Gary, Richmond, represented the Virginia State Nurses Association; and Mr. Stuart Ogren, Richmond, served as a delegate from the Virginia Hospital Association.

The House then heard the Reverend Paul B. McCleave, Director, Department of Medicine and Religion, American Medical Association. Dr. McCleave stated that never before has it been so important for medicine and religion to work in close harmony. There are more and more questions which need answers—particularly in these days when medicine stands on the threshold of new scientific breakthroughs. Dr. McCleave cited organ transplants and other forms of experimentation and research as examples of what he meant. Physicians must today look ahead to the decisions of tomorrow.

Dr. Kenneth Crispell, Dean of the University of Virginia School of Medicine, addressed the House and told of the continuing effort to solve the medical manpower problem, while at the same time maintaining the traditional high quality of medical education. He stated that for many years a class of 75 was thought to be ideal. The question now is whether classes can be enlarged past 100 if this quality is to be retained. Dr. Crispell praised the work of the Society's Committee on Medical Education and told of the contributions it had made during the past two years. He also mentioned the recently enacted legislation designed to combat heart disease, cancer and stroke, and indicated that the medical schools wished to work closely with the various communities in this regard.

Dr. Nelson then addressed the House in his capacity as Dean of the Medical College of Virginia School of Medicine. He stated that medical education was definitely on the move, and that growth could be found everywhere. He cited reasons for having larger faculties, and pointed out that few physicians realize the number of full and part-time teachers so necessary and vital to the operation of a medical school. He thanked The Medical Society of Virginia for its contribution to the medical scholarship program and, like Dr. Crispell, looked forward to an even closer working relationship in the years ahead.

Dr. Birdsong then delivered his Presidential Address, which will be published in its entirety in the Virginia Medical Monthly.

The House next gave its attention to the proposed "Rules of Procedure" and adopted a motion of approval. It was made quite clear that these "Rules"

do not carry over, but must be considered each year.

The Speaker appointed temporary chairmen from the Congressional Districts to meet with their respective delegations for the purpose of electing members of the Nominating Committee.

Following a brief recess, during which the various delegations caucused, the Committee on Nominations was announced as follows:

- 1st District: Dr. Frank Kearney
- 2nd District: Dr. Mallory Andrews
- 3rd District: Dr. W. T. Thompson
- 4th District: Dr. Fletcher J. Wright, Jr.
- 5th District: Dr. Ralph Landes
- 6th District: Dr. George Hurt
- 7th District: Dr. Charles L. Savage
- 8th District: Dr. James C. Respass
- 9th District: Dr. Carl Stark
- 10th District: Dr. John C. Watson

Reference Committee members elected by the House were also reported. They were:

- 1st District: Dr. E. B. Mewborne
- 2nd District: Dr. Robert J. Faulconer
- 3rd District: Dr. William R. Hill
- 4th District: Dr. William Grossmann
- 5th District: Dr. E. T. McNamee
- 6th District: Dr. John A. Martin
- 7th District: Dr. George M. Nipe
- 8th District: Dr. William D. Liddle, Jr.
- 9th District: Dr. Robert A. Abernathy
- 10th District: Dr. Carl P. Parker, Jr.

Dr. Walter A. Porter, Chairman of the Finance Committee, presented a report on the Society's financial condition through October 1, and reviewed the proposed budget for fiscal 1965-66. The budget was received and referred to an appropriate Reference Committee.

Dr. Birdsong delivered a report from Council in which several matters were referred to the House for action. The first had to do with a number of proposed changes to the Medical Practice Act. These changes were commented on in some detail by Dr. Cox and referred to a Reference Committee. The second matter concerned the battered child problem and involved two resolutions which were referred to a Reference Committee for consideration. The third item was a resolution calling for the General Assembly to appropriate additional funds to be used in connection with Federal Hill-Burton funds in providing hospital facilities which will be badly needed after July 1, 1966. This resolution was also referred to a Reference Committee. The fourth matter referred to the House concerned resolutions sponsored by the

Virginia Radiological Society and the Virginia Society for Pathology. These resolutions, referred also to a Reference Committee, called for separation of professional fees from hospital charges.

The various committee reports were received and referred to Reference Committees. At the same time, Committee Chairmen were invited to present supplemental reports, should they wish. Supplemental reports were presented by the Public Relations Committee, Committee for Liaison with Nurse Examiners and Organized Nursing, Committee on Medical Education, and Committee on Child Health.

New business was called for by the Speaker, and Dr. Boyd Payne introduced a resolution which would classify certain drugs on a prescription basis.

It was announced at this time that all resolutions introduced as new business would be assigned to Reference Committees and the assignments noted on a special bulletin board to be displayed in the Lobby of the John Marshall.

A resolution from the Roanoke Academy of Medicine having to do with the battered child problem was then introduced. This resolution was one of two on the subject referred to the House by Council.

Also introduced was a resolution sponsored by the Southwestern Virginia Medical Society which would repeal that portion of the State Pharmacy Code prohibiting the dispensing of drugs by physicians except under certain conditions.

A resolution was received from the Danville-Pittsylvania Academy of Medicine urging the 1966 General Assembly to appropriate those capital outlay funds requested by the University of Virginia and the Medical College of Virginia for the enlargement of their medical educational facilities.

Introduced next was a resolution from the Fairfax County Medical Society which would restrict use of the word "Doctor" to those practitioners of the healing arts with doctoral degrees from recognized universities.

The Lynchburg Academy of Medicine sponsored a resolution which would have The Medical Society of Virginia institute and encourage legislation to either return the responsibility of medical care of indigents to physicians and reduce taxes accordingly, or, accepting the trend of the past three decades as inevitable, allow just compensation to physicians for work done for recipients of aid from any government source.

Also introduced was a resolution from the Danville-Pittsylvania Academy of Medicine expressing opposition to S. 2568—the so-called Hart Bill. This

bill would place discriminatory prohibition of practice controls on physicians.

The Newport News Medical Society then sponsored a resolution urging physicians, under Medicare, to continue billing patients directly in the traditional ethical manner and decline to accept the alternate method of assigned benefits on a pre-arranged fee schedule.

The House then received a resolution from the Arlington County Medical Society which supports the stand of the American Medical Association that operation of a medical laboratory constitutes the practice of medicine and should be confined to licensed Doctors of Medicine.

Another resolution from the Arlington County Medical Society would investigate the practice of selling drug samples.

The last resolution to be received was introduced by Dr. William Grossmann. The resolution pointed out that Medicare is a bad law and that The Medical Society of Virginia should make every effort to bring about its repeal. It also called for prevention of the further spread of socialism in our medical system and stressed the right of each individual physician to determine whether he will participate in the Medicare program.

Following an announcement concerning where the various Reference Committees would meet the following afternoon, the Committee on Nominations was officially elected.

There being no further business, the meeting was adjourned.

SECOND SESSION

The second session of the House of Delegates was called to order by Dr. Kinloch Nelson, Speaker, at 3:30 P.M. on Tuesday, October 12, 1965, in the Jackson Room of Richmond's Hotel John Marshall. A quorum was present.

Dr. W. Linwood Ball, Delegate to the American Medical Association, was requested to present a brief report on a special meeting of the AMA House of Delegates held a week earlier. Dr. Ball stated that much of Medicare is still in the study stage, and that AMA is doing everything possible to develop recommendations which will permit the program to operate, as much as possible, in the interest of both physicians and patients. He added that a number of physicians have been appointed to various planning committees. Dr. Ball stressed the fact that an association like The Medical Society of Virginia cannot take a firm stand against participation. Such

action conceivably could place the Society in conflict with Federal antitrust laws.

Dr. Ball emphasized, however, that the individual physician can still act according to the dictates of his conscience. He told of reported plans already being drawn to reduce the age limit from 65. It was stated that the battle is actually far from over, and that physicians should continue to let their Congressmen know how they feel about Medicare.

Dr. Nelson relinquished the Chair to Dr. Salley in order to present the report of Reference Committee No. 1. On the recommendation of the Committee, the following reports were approved: AMA Delegates; Ethics; Blue Shield Directors; Cancer; Aging and Chronically Ill; Medicine and Religion; Alcoholism; Medicare Advisory; and Insurance.

It was recommended that the report of the Advisory Committee to the Department of Welfare be tabled because of a question concerning that portion pertaining to the fee schedule currently being used for the MAA Program (Kerr-Mills). *The recommendation was adopted.*

With reference to the report of the Committee on Conservation of Hearing, the Committee recommended that it be referred to the State Board of Medical Examiners for the purpose of determining whether testing for hearing deficiencies is, in effect, the practice of medicine. *As a result of a question on proper procedure, it was determined that the report should be recommitted in order to obtain the opinion of the State Board of Medical Examiners. A motion to this effect was seconded and adopted.*

The House was then requested by the Committee to approve those changes in the Medical Practice Act proposed by the State Board of Medical Examiners. *Following considerable discussion, during which a motion to read the entire report in detail was lost, the House approved the following proposed changes to the Medical Practice Act as recommended by the Committee:*

1. Reduce the chiropractic representation on the Board of Medical Examiners;
2. Enlarge and make more explicit the authority of the Board where disciplinary hearings and investigations are concerned;
3. Remove pharmacology from Part II and place it in Part I of the examination;
4. Give the Board authority to censure, reprimand, or place on probation, and add incompetency as ground for Board action;
5. Define more clearly those acts which constitute unprofessional conduct;
6. Make it the duty of every practitioner to report to the Board the professional treatment for

alcohol or drug addition of any person licensed to practice any of the healing arts in Virginia—if he feels that the continuance in practice by such person would constitute a danger to the health and welfare of his patients or public;

7. Set up a special committee of the Board to handle minor offenses on an informal basis;

8. Establish procedures applying to cases of censure, reprimand, etc.;

9. Deny the right to practice within the State to a practitioner whose license was suspended or revoked—pending application for review and during proceedings in the courts. This change would make the order of the Board effective until stayed by the court in review proceedings.

The House then accepted a Committee recommendation that a resolution from the Lynchburg Academy of Medicine be tabled at this particular time. The resolution concerned would have the Society institute and encourage legislation to either return the responsibility of medical care of indigents to physicians and reduce taxes accordingly, or, accepting the trend of the past three decades as inevitable, allow just compensation to physicians for work done for recipients of aid from any government source.

Since the Reference Committee had raised some questions concerning the resolution sponsored by the Newport News Medical Society with reference to billing procedures under Medicare, a substitute resolution was presented in its place. *The resolution was adopted in the following form:*

WHEREAS, the Medicare Act (Public Law 89-97, Part B, Section 1832 (a) (1)) offers a choice of professional fee payment directly to the patient, or "on his behalf" to the physician; be it

RESOLVED, that each member of The Medical Society of Virginia be made aware of this choice; and further be it

RESOLVED, that the Newport News Medical Society wishes to emphasize the importance of the time-honored, basic right of physicians to set their own reasonable fees, and urges that physicians continue to bill patients directly in the traditional ethical manner; and further be it

RESOLVED, that this resolution be presented to the House of Delegates, The Medical Society of Virginia, for its approval, and be distributed to all its members; and further be it

RESOLVED, that this resolution be presented to the House of Delegates, American Medical Association, at its next meeting, for its approval.

Although some opposition was noted, the following resolution was adopted as recommended by the Committee:

WHEREAS, Public Law 89-97, commonly known as Medicare, is now the law of the land; and

WHEREAS, this law is a bad law in that it is not in the best interest of medical care for the American people; and

WHEREAS, this law was passed not through the normal democratic process of legislation, but by the grossest mockery of this process (For instance, no Committee hearing prior to passage of the Bill by the House of Representatives; other hurried procedures, most unusual for legislation of this import); therefore be it

RESOLVED, (1) that The Medical Society of Virginia make every effort through every means possible to effect the repeal of this law;

(2) that any attempt to amend or modify this law in order to ameliorate its evils be supported by The Medical Society of Virginia;

(3) that The Medical Society of Virginia devote its continuing energies toward preventing any further spread of socialism in the medical system in this State and throughout the United States;

(4) that The Medical Society of Virginia, despite its feeling about the Medicare program, work with those agencies of the local, State and Federal governments, and with private and other organizations, toward the most efficient operation of the program until such time as the program is repealed, since medical care under any system or plan can be properly rendered only through the guidance of physicians themselves;

(5) that each individual physician can and must determine whether or not he will participate in the Medicare program.

A motion to approve the report of Reference Committee No. 1 as amended was seconded and adopted.

Dr. Nelson once again assumed the role of Speaker, and requested Dr. Salley to present the report of Reference Committee No. 2.

Acting on the recommendation of the Reference Committee, the House approved the following committee reports: Membership (includes nomination of Dr. Birdsong for Honorary Active membership); Public Relations; Traffic Safety (Committee urged to meet annually); Walter Reed Commission; National Emergency Medical Service; Maternal Health; and Judicial.

The Reference Committee recommended that the report of the Committee on Mental Health be approved with two exceptions. The first refers to Virginia laws vs. Maryland laws dealing with defective delinquents, and the second to privileged communications between psychiatrists and their patients. It was the feeling of the Reference Committee that these two matters should be referred back to the

Committee on Mental Health for further clarification and presentation at the next meeting of the House. *The Committee recommendation was adopted.*

The Speaker then called attention to two resolutions contained in the report of the Committee on Mental Health. The Reference Committee had recommended that both be adopted. The first endorses in general the report of the Study Commission on Mental Illness and Health and commends it to the attention of each member of the Society. The second recognizes that mental illness, mental retardation and emotional disturbances represent a major health problem throughout Virginia and calls for the Society to support legislation to obtain financial support to correct this situation. *The resolutions were adopted.*

The report of the Committee on Medical Education was discussed at length, and it was the recommendation of the Reference Committee that it be adopted with the exception of the last paragraph. It was the opinion of the Reference Committee that the medical profession in general was not sufficiently informed of the changes made from the original bill to intelligently endorse the revision of H. R. 3140 (the heart, cancer, stroke bill).

The House then considered a resolution from the Southwestern Virginia Medical Society having to do with that portion of the State Pharmacy Code bearing on the dispensing of drugs by physicians. *After hearing a recommendation that the "Resolved" be amended by substituting the word "revision" for "repeal", the resolution was adopted in the following form:*

WHEREAS, the right to handle, prescribe and dispense drugs and medications is inherent in the practice of medicine; and

WHEREAS, the State Pharmacy Code of 1958 (amended 1964) makes specific attempt to prohibit this natural right of dispensing medication and making reasonable charge therefor; therefore be it

RESOLVED, that The Southwestern Virginia Medical Society go on record as vigorously opposing this action and request The Medical Society of Virginia take all proper steps toward revision of Article 9, Section 54-481, Article 5, Section 54-445 and Article 5, Section 54-441.

In considering a recommendation by the Danville-Pittsylvania Academy of Medicine, the House was advised that the Reference Committee recommended a more direct and succinct version. In discussing the resolution, the House adopted an amendment to the first "Whereas" which would substitute the wording "while not likewise affecting any other group" for

the wording "while excluding other medical and ancillary groups".

The resolution was then adopted in the following form:

WHEREAS, S. 2568 would place discriminatory prohibition of practice controls on physicians while not likewise affecting any other group; and

WHEREAS, the right to dispense has been the right from time immemorial and, today, in many areas, is an absolute necessity for proper patient care; therefore be it

RESOLVED, that The Medical Society of Virginia take whatever action possible to defeat this legislation.

The Committee then recommended that a resolution from the Arlington County Medical Society having to do with the selling of drug samples be adopted with two amendments to the "Resolved" portion. The first amendment would substitute the word "condemns" for "investigate", and the second would substitute the words "inform the profession to that effect" for "make appropriate recommendations to stop this practice". *The resolution, as amended, was then adopted in the following form:*

WHEREAS, drug samples are currently being sold to the public by a few pharmacists and physicians; and

WHEREAS, this is contrary to the purpose of the distribution of samples; therefore be it

RESOLVED, that The Medical Society of Virginia condemns the practice of selling drug samples and inform the profession to that effect.

Considered next was a resolution which would classify certain drugs on a prescription basis. It was the Committee's recommendation, in view of possible undesirable effects of an absolute restriction to a prescription basis for paregoric, chloral hydrate and the soporifics, that this resolution be referred to a proper committee for intensive study, and that Council be authorized to act should it deem advisable. *The recommendation was adopted.*

The House next adopted the following resolution as recommended by the Reference Committee:

WHEREAS, there is an urgent need for additional general hospital beds in the State of Virginia immediately, and that sufficient funds are not available to erect these facilities; therefore be it

RESOLVED, that The Medical Society of Virginia, through its State Legislative Committee, endeavor to have introduced at the coming session of the State Legislature appropriate legislation to provide special funds from the State of Virginia to supplement Federal Hill-Burton funds to erect, equip, and expand present medical facilities, in an attempt

to adequately cope with the existing shortage of general hospital beds, and the anticipated increase in demand for hospital beds which is expected to be from 10% to 35% greater after July 1, 1966; and be it further

RESOLVED, that a copy of these resolutions be sent to Governor Albertis S. Harrison and to each member of the State Senate and House of Representatives.

The report of Reference Committee No. 2 as a whole was then adopted as amended.

Dr. Frieden, Chairman, was then introduced for the purpose of presenting the report of Reference Committee No. 3.

On the recommendation of the Committee, the following reports were approved: Executive Secretary-Treasurer; Editorial; House; United Mine Workers' Welfare Fund; Rehabilitation; State Nurse Examiners and Organized Nursing; Continuing Education; and Mediation.

In recommending approval of the report of the Medical Service Committee, the Reference Committee also recommended adoption of the following resolution contained therein:

RESOLVED, that The Medical Society of Virginia take the lead in establishing a strong central utilization committee with regional representation; that this Committee be provided with the names of the utilization committees of the various hospital staffs and medical societies throughout the State; and, further, that the Society study the feasibility of encouraging regional areawide planning groups.

Dr. Frieden reported that a great deal of study and consideration have been given the report of the Liaison Committee to the State Bar. In recommending approval of the report, the Committee urged adoption of three recommendations which it contained. The first, which would change the provisions regarding submission of a case to the Joint Screening Panel in such manner as to permit unilateral hearings, was roundly debated on the floor. A motion not to approve this particular recommendation was seconded but defeated.

The second recommendation would change the wording of the Medico-Legal Plan for Screening Medical Malpractice Cases by amending paragraph two on page six in such manner as to conform with a change effected earlier in the year by the State Bar. The paragraph will now read:

"In any case where the Panel has determined that the acts complained of were or reasonably might be professional negligence and that the claimant was or may have been injured thereby, the

Panel, its members and The Medical Society will cooperate fully with the parties in their efforts to retain a physician or physicians qualified in the field of medicine involved, who will consult with and testify on behalf of the parties, upon payment of a reasonable fee by the party calling him, to the same effect as if the said physician or physicians had been engaged originally by such party."

The third recommendation would make known to the Society, and the public at large, the full opportunities available to the membership through existence of this Committee.

A motion to approve the report, while at the same time adopting the three recommendations, was seconded and carried.

The Reference Committee reported that the two resolutions having to do with the battered child problem had many similarities and much to recommend them. When it was learned, however, that Mr. Duval had prepared a proposed bill on the subject, the Committee gave it very careful consideration. The bill was reported to incorporate what the Committee believed to be the best parts of many state laws currently in effect across the country. It designates those who would be required to report serious injury inflicted upon a child under the age 16 as the result of abuse or neglect. It spells out how the report is to be made, covers the admissibility of evidence and provides immunity from liability.

It was, therefore, the recommendation of the Reference Committee that the proposed bill written by Dr. Duval be approved in lieu of the two resolutions mentioned above and referred to the Legislative Committee with the request that every effort be made to bring about its enactment into law. *The recommendation was adopted.*

Also adopted by the House was the following resolution from the Danville-Pittsylvania Academy of Medicine:

WHEREAS, Virginia now ranks well below the national average of physicians per 100,000 population; and

WHEREAS, the present medical school facilities of the State have reached maximum capacity enrollment and the two State-aided medical schools are asking the General Assembly for capital outlay funds to increase their capacity for training physicians; and

WHEREAS, an adequate supply of physicians is of vital importance to the health and welfare of the people of the Commonwealth; now therefore be it

RESOLVED, that the House of Delegates of The

Medical Society of Virginia go on record as favoring and strongly urging the 1966 General Assembly to appropriate the capital outlay funds requested by the University of Virginia and the Medical College of Virginia to enlarge their medical education facilities in order to help alleviate the shortage of physicians in Virginia.

Next to be considered was a resolution from the Arlington County Medical Society which supported the stand of the American Medical Association that the operation of a medical laboratory constitutes the practice of medicine. *Adoption of the resolution was recommended by the Reference Committee, and a motion to that effect was passed. The resolution, in its entirety, follows:*

RESOLVED, that the Arlington County Medical Society restate and support the stand of the American Medical Association that the operation of a medical laboratory is the practice of medicine and should be confined to licensed doctors of medicine. Believing that the best interests of our patients are served in this manner, we condemn the operation of medical laboratories by laymen; and be it further

RESOLVED, that this encroachment on the practice of medicine, as well as that of other paramedical groups, is detrimental to the practice of medicine and the welfare of our patients and should be condemned by our Society and The Medical Society of Virginia.

A resolution from the Virginia Radiological Society, and a companion piece from the Virginia Society for Pathology, were recommended for adoption by the Reference Committee. *The resolutions were adopted and follow in their entirety:*

Virginia Radiological Society

WHEREAS, an arrangement, or contract, under which a physician merges his professional fee with hospital costs into a single charge to a patient and then permits the hospital to collect this charge has the following defects:

1. It conceals from patients the professional fee of the physician and the charge of the hospital for facilities, supplies and auxiliary personnel, and the patient has the right to know who is being paid for what;

2. It tends to eliminate competition between physicians based upon proficiency and quality of services to patients and substitutes competition for hospital contracts based upon a willingness to accept hospital dictated terms which is a form of solicitation of patients;

3. It tends to increase problems of hospital-physician relationships by providing financial in-

centives to hospitals to seek contract physicians who will accept terms yielding the highest possible profit to the hospital, rather than physicians who can contribute most to medical practice and patient care in the hospital;

4. It tends to promote a monopoly for the contract physician which restricts free choice of physician by patients and restricts free choice of consultant by physicians, and thereby perverts physician-patient relationships which are based upon voluntary associations throughout medical practice;

5. It identifies the contract physician as a hospital employee and his services as hospital services which is misleading to hospital governing bodies, patients, insurance carriers, agencies of government, and the public; and

WHEREAS, radiologist with such arrangements have recognized the error of permitting these arrangements to continue and are working to separate their professional billings from hospital charges; and

WHEREAS, the House of Delegates of the American Medical Association has on many occasions stated as a principle that "A physician should not dispose of his professional attainments or services to any hospital, corporation or lay body by whatever name called, or however organized under terms or conditions which permit the sale of the services of that physician by such agency for a fee."; and

WHEREAS, the United States Congress in enacting Public Law 89-97, Medicare, declared as a matter of public policy that hospital costs be reported separately from radiologists' professional fees; therefore be it

RESOLVED, that The Medical Society of Virginia encourages its member radiologists to strive for arrangements under which they accept full responsibility for establishing, presenting and collecting fees for their professional physicians' services; and be it further

RESOLVED, that The Medical Society of Virginia expresses its disapproval of any arrangement under which a radiologist merges his professional fee with hospital costs into a single charge to the patient; and be it further

RESOLVED, that The Medical Society of Virginia requests and urges constituent local and county medical societies to assist in implementing these policies through all appropriate legal, ethical and communications channels available.

Virginia Society for Pathology

WHEREAS, The House of Delegates of the American Medical Association met in special convention on October 2 and 3, 1965, to consider per-

tinent items relating to current problems incident to health care laws and pending legislation; and

WHEREAS, the Reference Committee on Legislation and Public Relations heard 125 witnesses speak to twenty separate subjects during seven and one-half hours of testimony; and

WHEREAS, many important and momentous decisions were adopted which will affect the practice of medicine now and in posterity, The Virginia Society for Pathology especially commends the Reference Committee for the following action: "Hospital-based medical specialists are engaged in the practice of medicine. The fees for the services of such specialists should not be merged with hospital charges. The charges for the services of such specialists should be established, billed and collected by the medical specialist in the same manner as are the fees of other physicians"; therefore be it

RESOLVED, that the Virginia Society for Pathology endorse and adopt the above cited action and that The Medical Society of Virginia endorse and adopt the above cited action.

The House was advised that much consideration had been given to a Fairfax County resolution which would restrict use of the word "Doctor" to those practitioners of the healing arts with doctoral degrees from recognized universities. The Committee reported that, although it was quite sympathetic, it did not believe the resolution would adequately solve the problem, and felt that it could only recommend referral to an appropriate committee or group for further study. *The Committee's recommendation was adopted.*

The report as a whole for Reference Committee No. 3 was then adopted.

The Speaker reported that, through an oversight, the proposed budget for fiscal 1965-66 had not been referred to a Reference Committee, and indicated that discussion was in order. The budget had been covered in detail during the first session of the House on October 10.

There was no discussion, and a motion for approval of the following budget for fiscal 1965-66 was seconded and adopted:

Expenses:

Salaries	\$ 40,000.00
Telephone & Telegrams.....	1,700.00
Postage	2,500.00
Stationery & Supplies.....	2,000.00
Office Equipment	2,000.00
Building Maintenance	6,800.00
Convention Expenses	1,000.00
Council & Committee Expense.....	2,500.00
Delegates to AMA.....	2,000.00

Executive Assistant Travel.....	\$ 500.00
President's Expense	3,000.00
Travel	1,500.00
Virginia Medical Monthly.....	30,000.00
Scientific Exhibits	1,000.00
Legal Expense	4,500.00
Walter Reed Commission.....	500.00
Woman's Auxiliary	100.00
Membership Dues (Affiliated Organizations)	550.00
Editor—Virginia Medical Monthly.....	1,000.00
Miscellaneous	750.00
News and Views	700.00
Retirement Fund	5,500.00
Social Security	1,100.00
VaMPAC	12,000.00
Public Relations	3,000.00

Special Appropriations:

Virginia Council on Health & Medical Care	4,000.00
AMA-ERF	2,000.00
AMA Student Loan.....	1,000.00
National Society for Medical Research.....	150.00
Rural Health	500.00
Miscellaneous AMA	500.00
Scholarship—MCV School of Medicine.....	2,000.00
Scholarship—University of Virginia School of Medicine	2,000.00
Joint Council to Improve Health Care for Aged	125.00
Student AMA	150.00
State-Local Hospitalization Conferences.....	500.00

TOTAL BUDGET\$139,125.00

A question was raised concerning the introduction of resolutions, and the thought was expressed that perhaps no resolution should be accepted unless filed 30 days prior the meeting. A motion to this effect was, however, ruled out of order.

Dr. McCausland then requested permission to introduce a resolution by common consent. The consent was granted and the following resolution adopted:

BE IT RESOLVED: That Dr. Frank Cyrus McCue, III, be nominated to receive the award of the President's Committee for the Physically Handicapped and the Governor's Award Committee as the physician doing the most toward the employment of the physically handicapped in Virginia.

Dr. George Hurt was then called upon to present the report of the Committee on Nominations. The following nominees were elected:

President-Elect: Dr. K. K. Wallace, Norfolk
1st Vice-President: Dr. Hunter M. McGuire, Jr.,
Richmond
2nd Vice-President: Dr. George B. Kegley, Bland
3rd Vice-President: Dr. William Grossmann,
Petersburg
Speaker: Dr. W. Callier Salley, Norfolk

Vice-Speaker: Dr. Thomas S. Edwards,
Charlottesville

Executive Secretary-Treasurer: Robert I. Howard,
Richmond

The following Councilors were elected:

1st District: Dr. F. Ashton Carmines,
Newport News

3rd District: Dr. Thomas W. Murrell, Jr.,
Richmond

5th District: Dr. W. Nash Thompson, Stuart

7th District: Dr. Dennis P. McCarty,
Front Royal

9th District: Dr. W. W. Walton, Pulaski

Dr. William S. Hotchkiss then nominated Dr. Mallory S. Andrews to fill the unexpired term of Dr. K. K. Wallace as Councilor from the 2nd District. Dr. Andrews' nomination was seconded and he was elected.

Nominations to be submitted to the Governor for appointment to the State Board of Medical Examiners from the 3rd and 4th Districts were announced as follows:

Third Congressional District

Dr. William H. Higgins, Jr.

Dr. Earnest B. Carpenter

Dr. James O. Burke

Fourth Congressional District

Dr. A. Tyree Finch, Jr.

Dr. George J. Carroll

Dr. William Grossmann

The House was advised that the terms of Dr. W. Linwood Ball and Dr. Allen Barker as Delegates to the American Medical Association would expire on December 31. Dr. Ball and Dr. Barker were then nominated and re-elected without opposition.

Dr. W. Callier Salley and Dr. Russell Buxton were re-elected as alternates.

Dr. McCausland was then installed as President, with Dr. Birdsong presenting him the gavel as the traditional symbol of the office.

As his first official act, Dr. McCausland presented Dr. Birdsong an engraved gavel and a Certificate of Appreciation.

Dr. McCausland called on physicians to take the offensive and forget defense for awhile. He stated that Medicare should be amended or repealed, and that physicians should begin to "educate, advocate and legislate". Dr. McCausland went on to stress the importance of AMPAC and VaMPAC in these days of decision.

Consent was then obtained for Dr. Frieden to introduce the following resolution of appreciation, which was seconded and adopted.

RESOLVED, that this body express to the Committee on Arrangements of the Richmond Academy of Medicine and the Program Committee of The Medical Society of Virginia its sincere appreciation for a very fine annual meeting; and be it further

RESOLVED, that the staff of the Hotel John Marshall be thanked for the role it has played in making the meeting a most memorable one.

There being no further business, the meeting was adjourned.

ROBERT I. HOWARD, *Secretary*

Approved:

McLEMORE BIRDSONG, M.D., *President*

Fifty Year Members—1965

Thomas Neill Barnett, M.D.
Richard Bertram Blackwell, M.D.
Edgar Allen Bocock, M.D.
George Winston Botts, M.D.
Paul Davis, M.D.
John Morehead Emmett, M.D.
Marion Stevenson Fitchett, M.D.
Frederick Peter Fletcher, M.D.
Glenn Taylor Foust, M.D.
Carroll Hoge Iden, M.D.
John Hundley Hoskins, M.D.
Wayne McLean Phipps, M.D.
Cyril Iredel Sease, M.D.
Leroy Dilmore Soper, M.D.
Lewis Betty Staton, M.D.
Ralph Wierman Stoneburner, M.D.
Joseph Judson Waff, M.D.
Frank Laird Wysor, M.D.

Members Whose Deaths Have Been Reported Since 1964 Annual Meeting

Howard Lysle Mitchell, M.D.
Harry Lewis Baptist, M.D.
William Hughes Evans, M.D.
John Robert Massie, Jr., M.D.
Edward Julian Moseley, Jr., M.D.
Thomas Whitehead Murrell, M.D.
John Bonney Shipp, M.D.
William Lawrence Gatewood, M.D.
John Richard Hamilton, M.D.
Ernest Brubaker Miller, M.D.
James Russell Parker, M.D.
Dean Harold Vance, M.D.
Gilbert Octavius Crank, M.D.
Anthony Peter Slewka, M.D.
Luther Clifton Brawner, M.D.
Henry Thomas Garriss, M.D.
John Guido Graziani, M.D.
Herbert Dale Hebel, M.D.

Lewis Winston Holladay, M.D.
Francis Harrison Lee, M.D.
Collins Denny Nofsinger, M.D.
Ennion Skelton Williams, M.D.
David Lemuel Harrell, Jr., M.D.
William Cline Moomaw, M.D.
Abe Leon Schwartz, M.D.
Henrik Shelley, M.D.
William Hoge Wood, Jr., M.D.
Louis Berlin, M.D.
Stuart Gray Coughlan, M.D.
Mercer Waller Crafford, M.D.
Thomas Jefferson Tudor, M.D.
John Jacob Giesen, M.D.
Ben Halsey Knight, M.D.
Joseph Edward Rucker, M.D.
Dawson Edward Watkins, M.D.
James Byrd Johnson, M.D.
Robert Irvin McClaughry, M.D.
John T. Wood, M.D.
Philip Winston Cowherd, Jr., M.D.
Lucy Scott Hill, M.D.
Allen Knox Turner, M.D.
Avery Bryan Graybeal, M.D.
Henry Augustine Latane, M.D.
Hulbert Christopher McCoy, M.D.
Mark Exley, M.D.
Gerhard Gabriel, M.D.
Claude Kelso Kelly, M.D.
Silvia Luik, M.D.
John W. Powell, M.D.
Walter F. Thornton, M.D.

The following reports, while accepted by the House of Delegates, have not been published previously.

Insurance

A meeting of the Insurance Committee was held at Society Headquarters on August 25. Attending were: Dr. Andrew F. Giesen, Chairman, Dr. W. D. Lewis, Dr. A. L. Herring, Jr., Dr. C. M. McCoy, Dr. James G. Willis, and Dr. Alvin E. Conner.

A review of the Society's Professional Liability Program was presented by Mr. Don Clifford, St. Paul, Minnesota. Mr. Clifford stated that 78% of the membership is now participating—a very acceptable figure. Experience has been fairly good during the past year, and Virginia is included in the lower brackets where premiums are concerned. At the present time, the Society's Program is saving its members money in almost every category. It was learned from Mr. Clifford that an acceptable loss ratio is 51%. Although the loss ratio for surgeons has been fairly high, it has been more than offset by a low ratio in the two categories for physicians. It was also learned that the amount held in reserve for outstanding claims has shown some reduction during the first six months of 1965. This is a good sign.

All in all, according to Mr. Clifford, the Program looks very good. It was his recommendation that no changes be made in current premium rates at this time. It was his feeling that, should the experience remain good, some change could be expected by next spring. The Committee agreed that this was sound advice.

The Committee's attention was then directed to the basic sickness and accident program underwritten by Commercial Insurance Company of the Continental Group (formerly American Fore-Loyalty Group). Mr. William Hundley introduced Mr. Ken James, Atlanta, and stated that detailed administration of the Program is now being handled in Atlanta. Mr. James reported that 1,239 members are presently insured—approximately 36% of the membership. He expressed the hope that this figure could be increased considerably in the months to come.

It was proposed that the current program be improved by making available a plan which would cover sickness all the way to age 65. The chances of obtaining such coverage appear quite favorable.

Mr. Hundley called attention to the fact that the G. C. French Agency, with headquarters in Richmond, has recently been sold to Mr. Charles Suter of Arlington. Mr. Suter brings with him a wealth of experience and is being counted on to increase the number of participants in his service area.

A question was raised concerning whether some way might be found to provide at least limited coverage for those members presently uninsurable. The company was requested to give special consideration to this particular group of people.

After further discussion concerning proposed coverage for sickness to age 65, Dr. McCoy moved that the Chairman be authorized to give such a plan final approval if he deemed it advisable. The motion was seconded and adopted. In discussing premium rate structure, the Committee was advised that it had not been found necessary thus far to change to a step rate arrangement.

Mr. David Dyer was then invited to advise the Committee concerning the major hospital and professional overhead programs. It was learned that both programs are coming along nicely, and that the loss ratio is much better than last year. Six hundred and fifty-five members are enrolled in the major hospital plan while approximately three hundred are participating in the professional overhead program.

Mr. Dyer went on to say that the supplemental sickness and accident program has some three hundred physicians enrolled, and he expects this figure to increase materially in the months ahead. The big

competition thus far has been the program available through the Southern Medical Association.

The Committee then heard Mr. Fred Hamlin of Roanoke discuss the Society's basic sickness and accident program from the point of view of an individual agent. It was Mr. Hamlin's feeling that one agent in the state should serve as a coordinator. He mentioned lack of advertising in the Virginia Medical Monthly, lack of definite policy with reference to an exhibit at the Annual Meeting and lack of unity among the seven agencies. He also expressed the hope that an effort would be made to have the Commercial Insurance Company improve the basic plan by covering sickness to age 65.

It was Mr. Hamlin's feeling that a need does exist in Virginia for a group life program for physicians. He stated that a number of physicians had talked to him concerning the possibility of establishing such coverage.

During the ensuing discussion, it was brought out that The Medical Society of Virginia had conducted a special poll on the subject and found very little demand for a group life program. Three out of four indicated no interest whatever.

Mr. Hamlin went on to say that his company, General Insurance of Roanoke, was interested in providing a group life program for physicians, but did not want to proceed unless the committee indicated no objection. He mentioned the fact that there is nothing to prevent any company from selling such coverage should it so desire. He wanted to make sure, however, that The Medical Society of Virginia would not object.

The Committee, while sympathetic to Mr. Hamlin's request, indicated that it did not wish the name of The Medical Society to be used in any way with a program not officially sponsored by the Society.

The Committee was informed that the Aetna Casualty Company had requested an opportunity to express its feelings concerning professional liability coverage. At one time, Aetna had indicated to the Society that it was only interested in writing professional liability coverage on an accommodation basis.

Mr. Langley, state agent for Aetna, and Mr. Fisher represented the company and presented a proposed plan bearing the label of "Scope". This particular plan is somewhat different in that it places all forms of liability coverage in one policy.

Mr. Langley stated that Aetna would like very much for the Society to withdraw its endorsement of St. Paul and, instead, approve any top quality plan offered by a reputable company. He referred to this as co-endorsement.

The Aetna representatives were advised that they could, should they wish, present a detailed proposal for Committee consideration.

There being no further business, the meeting was adjourned.

ANDREW F. GIESEN, M.D.
Chairman

Medical Education

On September 23, 1965, the Committee on Medical Education met and again considered the controversial House of Representatives Bill 3140 on heart disease, cancer and stroke. The discussion was long and often heated.

The following things seemed to be true:

1. The present Bill is drastically changed from the original and from the DeBakey Report, so much so as to be a different concept.

2. In its present writing, the Bill provides for a relationship between teaching centers and the non-university medical community and accents continuing postgraduate education. There have been striking deletions. For instance, "arrangement" and "association" have replaced the original concept of local treatment centers. It is also to be noted that no funds have been provided for new building.

The need for a relationship in the field of postgraduate education between teachers and practitioners has long been recognized by this Society. Other states (Kansas, Michigan, New York) have had plans attempting to accomplish this. These have had varying degrees of success. This Committee has studied several of these in the past; our efforts in this direction were defeated by the obvious impossibility of establishing true postgraduate departments in our schools without depriving, directly or indirectly, the already financially hard pressed facilities for undergraduate medical students.

The last two decades have seen bewildering advances in medical knowledge and techniques; this Committee feels that there must be work-a-day teaching communication between the practicing physician and teaching medicine. It is not now sufficient that postgraduate education be haphazard.

3. H. R. 3140 provides funds for planning, and broad latitude as to planning; allowing, as written, each area to determine its own needs. In passing, note that the original DeBakey Report's statement of a specific number of regions has been dropped. Also important is that our two schools and the Norfolk Commission's proposed school are at peace with each other as to all this.

4. Provisions are in the Bill for an advisory committee in each region. Such a committee will include members from the academic world, lay people and practicing physicians. Such a committee could easily be elevated to the role of a controlling authority in Virginia; this seems a probable means of establishing a system of checks and balances.

5. At the time of this writing, all evidence is that this Bill will become law.

Thus, on the face of it, the heart, cancer and stroke legislation offers much that we need and have long sought. On the other hand, it represents Federal financing, an approach which has not enjoyed popularity in this Society in the past. It is important here to realize that between fifty and fifty-five per cent of the financial support of our two medical centers is already Federal and that this has been true for many years. This is in line with all medical centers in this country, with an occasional rare, rich privately endowed exception. It is equally important to recognize that ours are financially have-not schools; neither is in a competitive position to wave aside funds as a gesture at a time of continuing state physician shortage.

So, the Committee recognizes a crossroads. There is opportunity here; with care and planning, the university world and the world of the practitioner can be merged to mutual advantage, with dominance by neither.

In the other direction lies the great-grandfather of town-gown schisms.

The following resolution was adopted by the Committee:

It was moved that the Committee on Medical Education endorse the revision of H. R. 3140 (dated September 8, 1965), which allows for planning money for feasibility studies through a grant to encourage and assist in the establishment of regional cooperative arrangements among medical schools and community medicine for continuing education and training of the medical profession in the State of Virginia on a Statewide basis.

JOHN C. WATSON, M.D., *Chairman*

Judicial

The House of Delegates in 1964 recommitted the proposals submitted by this Committee in regard to change in membership of the Council. At a Council meeting subsequent to the last meeting of the House, the question was again presented for advice since the proposal had originated in Council. In this meeting, Council voted to request no change. Since there

has been no proposal for change from any other source, the Judicial Committee recommends no action.

There have been no questions in regard to interpretation of the Constitution and By-Laws submitted to the Committee during the year. The Committee has no proposals for revision to submit to this session of the House.

W. CALLIER SALLEY, M.D., *Chairman*

Mediation Committee

Only two items, neither of them of great magnitude, were referred to this Committee during the past year.

One of these was disposed of satisfactorily by a personal conference in the office of your Chairman and the other through correspondence, making it unnecessary to hold a meeting of the entire Committee during the year.

ALLEN BARKER, M.D., *Chairman*

Advisory to State Department of Welfare

A number of meetings have been held with the Commissioner and departmental representatives of the State Department of Welfare and Institutions. The most important discussion revolved around payment, under Medical Assistance to the Aged, for inpatient medical services. It was decided, and is now in effect, that the Blue Shield 4000 series should be used and 50% of that allowed payment be used. There is some dissatisfaction, but in the main the policy has been accepted over the State and is working acceptably. Many changes and innovations can be expected as the effects of new legislation is evidenced. Your committee anticipates a busy year in 1965-1966.

JOHN T. T. HUNDLEY, M.D.,
Chairman

Conservation of Hearing

The Committee on Conservation of Hearing met in the Conference Center of the Williamsburg Lodge at 7:45 A.M., May 6, 1965. Those in attendance were: Dr. Neil Callahan, Dr. Jack Sellers, Dr. Charles Sale, Dr. Peter Wallenborn, Jr., Dr. Copley McLean and Dr. Cary N. Moon, Jr.

A report from the Virginia Hearing and Speech Foundation, Inc., 109 New Cabell Hall, University of Virginia, was reviewed. They reported on testing some 40,000 children and adults since October, 1964—this work being supported mainly by private do-

nations. However, during the last biennium the State, for the first time, awarded the Foundation a Two Year Grant to assist in carrying out this work, and also locally some support was given from the Albemarle-Charlottesville United Givers Fund, Inc., which permitted the Foundation to carry out an ongoing comprehensive speech and hearing testing program for all school age children in Albemarle County and Charlottesville. The Foundation also stated that they have completed some preschool clinics, utilizing the new Mobile Clinic which is equipped with an IAC sound room, diagnostic audiometer, and climate control units. They have volunteered their services to assist in the "Head-Start" program for both the City of Charlottesville and the County of Albemarle for the summer of 1965.

The demands for the Virginia Hearing and Speech Foundation continue to increase annually throughout the State, and are only limited by the funds with which they have to work.

In Charlottesville, the parents of a hard of hearing child and an audiologist successfully inspired other parents and friends of the hearing handicapped to form an organization which would work toward accomplishing the following purposes:

1. Better public understanding of the problems of the hearing handicapped adult and child.
2. Better educational facilities for the hearing handicapped.
3. Dissemination of knowledge concerning the hearing handicapped.
4. Sharing of information with all people interested in the hearing handicapped in an effort to understand common problems.

There have been several meetings of this organization, and considerable progress is apparent. There have been approximately twenty to twenty-four parents and professional persons attending the monthly meetings in Charlottesville. The current emphasis of the organization is the improvement and development of educational facilities for the hearing handicapped.

The main discussion of the Committee on Conservation of Hearing concerned problems encountered in the State with the hearing aid industry. Dr. Charles Sale, Norfolk, was invited to join the Committee because of his expressed desire to see if something could be done to help improve this situation. The Committee expressed concern about the general caliber of the hearing aid salesman and his tactics, and wished to explore the possibilities of some means of control of the hearing aid industry in the State.

The recommendation was to find out what other states had done in this regard. Discussion centered around the possibility of legislation requiring a license to sell hearing aids, with certain basic requirements to be met by these salesmen. Another condition, which seems desirable, would be for all hearing aids to be sold on a trial basis for a designated period of time. And, of course, it would seem ideal to require an M.D. or an audiologist's report before purchasing a hearing aid.

CARY N. MOON, JR., M.D., *Chairman*
 NEIL CALLAHAN, M.D.
 JOHN B. GORMAN, M.D.
 JOHN G. SELLERS, M.D.
 W. COPLEY MCLEAN, M.D.
 PETER N. PASTORE, M.D.
 PETER A. WALLENBORN, JR., M.D.
 CHARLES SALE, M.D.

Auditor's Report

OFFICERS AND COUNCILORS
 THE MEDICAL SOCIETY OF VIRGINIA
 RICHMOND, VIRGINIA

GENTLEMEN:

We have made an examination of the books and records of THE MEDICAL SOCIETY OF VIRGINIA, RICHMOND, VIRGINIA, for the fiscal year ended September 30, 1965, and have prepared therefrom the Balance Sheet, Exhibit "A", Statement of Surplus, Exhibit "B", and Statement of Income and Expenses, Exhibit "C". With the exceptions noted in the immediately following paragraph, our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

We did not verify the accounts receivable by direct correspondence with the debtors, nor did we verify the accounts payable. It will be noted from the balance sheet that the amounts of these items are not material in relation to the financial position as a whole.

It is our opinion that the Balance Sheet, Exhibit "A", presents fairly the financial position of the Society at September 30, 1965, in accordance with generally accepted principles of accounting. The Statement of Income and Expenses, Exhibit "C", is prepared on the basis of cash receipts and disbursements.

Yours very truly,
 MITCHELL, WIGGINS & COMPANY
 By CHARLES W. ANDERSON
Certified Public Accountant

BALANCE SHEET September 30, 1965

ASSETS

GENERAL FUND
 Cash in banks.....\$ 147,139.47

Accounts receivable:
 Dues from members—Estimated collectible value—
 1964 dues—50 @ \$40.00...\$2,000.00
 Advertising—Virginia Medical Monthly..... 1,748.40
 \$ 3,748.40

Investments:
 United States Savings Bonds—Present value (Schedule 1)..... 21,250.50
 \$ 172,138.37

PLANT FUND

Land and buildings—At cost (Schedule 2)..... \$ 112,073.67
 Furniture and equipment: (Schedule 2)
 Estimated value—October 1, 1950.....\$5,353.11
 Cost of acquisitions since October 1, 1950..... 7,701.30
 13,054.41

\$ 125,128.08

EXHIBIT "A"

LIABILITIES AND SURPLUS

GENERAL FUND

Accounts payable:
 Preparation of Medical Journal—September, 1965..... \$ 2,352.00

Surplus:
 Available for appropriation:
 Balance—September 30, 1965 (Exhibit "B")..... 169,786.37
 \$ 172,138.37

PLANT FUND

Surplus invested in plant assets (Exhibit "B")..... \$ 125,128.08
 \$ 125,128.08

STATEMENT OF SURPLUS

For Fiscal Year Ended September 30, 1965

EXHIBIT "B"

GENERAL FUND

Balance—October 1, 1964..... \$ 151,997.15
 Add:

Excess of income over expenses (Exhibit "C")...\$17,965.80
 Increase in bond interest adjustment..... 671.50
 18,637.30

Total..... \$ 170,634.45

Deduct:

Increase in accounts payable.....\$ 21.48
 Decrease in accounts receivable..... 826.60
 848.08

Balance—September 30, 1965 (Exhibit "A")..... \$ 169,786.37

PLANT FUND

Balance—October 1, 1964..... \$ 125,128.08
 Changes..... None

Balance—September 30, 1965 (Exhibit "A")..... \$ 125,128.08

STATEMENT OF INCOME AND EXPENSES

For the Fiscal Year Ended September 30, 1965

EXHIBIT "C"

	Actual	Budget
INCOME		
Membership dues.....	\$ 110,019.28	
Interest on savings accounts.....	1,753.91	
American Medical Association.....	1,293.15	
Reprints—Civil War Centennial Issue.....	18.11	
History of Medicine in Virginia.....	59.20	
Virginia Medical Monthly:		
Advertising.....	\$ 21,143.58	
Subscriptions—Nonmembers.....	355.02	
	<u>21,498.60</u>	
Total.....	\$ 134,642.25	
EXPENSES		
Salaries.....	\$ 39,657.36	\$ 40,000.00
Telephone and telegraph.....	1,698.82	1,600.00
Postage.....	2,241.67	2,500.00
Stationery and supplies.....	1,551.88	2,000.00
Office equipment—Repairs and replacements.....	1,031.05	850.00
Building maintenance and repairs—Net.....	8,356.25	6,800.00
Convention expense.....	210.65	1,000.00
Council and committee expense.....	2,593.75	2,900.00
Executive assistant—Travel.....	264.56	300.00
Delegates to American Medical Association.....	1,969.26	2,000.00
President's Expense.....	602.45	3,000.00
Travel expense.....	1,147.11	1,800.00
Preparation and distribution of medical journal.....	28,610.23	35,000.00
Scientific exhibits.....	680.00	2,000.00
Legal expense.....	3,463.50	3,500.00
Walter Reed Commission.....	162.00	500.00
Woman's Auxiliary.....	39.00	100.00
Membership dues—Affiliated agencies.....	490.00	550.00
Editor—Virginia Medical Monthly.....	600.00	600.00
Special appropriations:		
Virginia Council Health and Medical Care.....	3,000.00	3,000.00
American Medical Education Foundation.....	2,000.00	2,000.00
Student loan—American Medical Association.....	1,000.00	1,000.00
National Society Medical Research.....	150.00	150.00
Rural Health.....	500.00	500.00
Scholarship—Medical College of Virginia.....	1,000.00	1,000.00
Scholarship—University of Virginia.....	1,000.00	1,000.00
Other special appropriations.....	278.74	1,000.00
Virginia Medical Political Action Committee.....	3,412.95	3,500.00
News and Views.....	621.61	800.00
Employees' retirement fund.....	5,501.78	5,100.00
Social security taxes.....	779.31	750.00
Miscellaneous.....	632.92	1,000.00
Public relations.....	1,429.60	2,500.00
Totals.....	\$ 116,676.45	\$ 130,300.00
Excess of Operating Income Over Operating Expenses (Exhibit "B").....	\$ 17,965.80	

FINANCIAL CONDITION

The financial condition of the Society at September 30, 1965, is shown in the Balance Sheet, Exhibit "A", on the accrual basis of accounting. A comparative summary of the financial condition at September 30, 1965, and the two preceding years is presented as follows:

	SEPTEMBER 30,		
	1965	1964	1963
ASSETS			
Cash.....	\$ 147,139.47	\$ 129,173.67	\$ 105,508.43
Accounts receivable.....	3,748.40	4,575.00	5,008.78
Investments.....	21,250.50	20,579.00	19,935.00
Land, buildings and equipment.....	125,128.08	125,128.08	125,128.08
Totals—All Funds.....	<u>\$ 297,266.45</u>	<u>\$ 279,455.75</u>	<u>\$ 255,580.29</u>
LIABILITIES, SURPLUS AND FUND BALANCE			
Liabilities:			
Accounts payable.....	\$ 2,352.00	\$ 2,330.52	\$ 2,378.47
Surplus:			
General fund.....	169,786.37	151,997.15	128,073.74
Fund balance:			
Plant fund.....	125,128.08	125,128.08	125,128.08
Totals—All Funds.....	<u>\$ 297,266.45</u>	<u>\$ 279,455.75</u>	<u>\$ 255,580.29</u>

CASH—\$147,139.47

Recorded cash receipts were accounted for by deposits in the banks and disbursements were supported by properly signed and endorsed cancelled checks. The balances on deposit at September 30, 1965, were verified by direct correspondence with the banks as follows:

First and Merchants National Bank—Checking account.....	\$ 100,668.89
Bank of Virginia—Savings account.....	10,193.70
Southern Bank and Trust Company—Savings account.....	1,416.31
Franklin Federal Savings and Loan Association—Savings account	14,351.38
Richmond Federal Savings and Loan Association—Savings account.....	20,509.19
Total.....	<u>\$ 147,139.47</u>

INVESTMENTS—\$21,250.50

United States Savings Bonds, as shown in Schedule 1, were verified by inspection of the securities held in a safe deposit box at First and Merchants National Bank, Richmond, Virginia. They are shown in the balance sheet at their current redemption value.

PLANT FUND ASSETS—\$125,128.08

Details of the plant fund assets are shown in Schedule 2. No indebtedness against these assets was disclosed by the books.

OPERATIONS

The income and expenses for the fiscal year ended September 30, 1965, are shown in Exhibit "C", prepared on the cash receipts and disbursements basis. A summary of income and expenses for the current year are compared with that of the two preceding years as follows:

	FISCAL YEAR ENDED SEPTEMBER 30,		
	1965	1964	1963
INCOME			
Membership dues.....	\$ 110,019.28	\$ 105,814.14	\$ 99,111.00
Medical monthly publication.....	21,498.60	23,206.18	28,046.95
Other operating income.....	3,124.37	2,921.35	3,518.65
Totals.....	<u>\$ 134,642.25</u>	<u>\$ 131,941.67</u>	<u>\$ 130,676.60</u>
EXPENSES.....	<u>116,676.45</u>	<u>108,276.43</u>	<u>92,536.86</u>
Operating Income in Excess of Expenses.....	<u>\$ 17,965.80</u>	<u>\$ 23,665.24</u>	<u>\$ 38,139.74</u>

PLANT FUND ASSETS

September 30, 1965

SCHEDULE 2

LAND AND BUILDINGS—At cost	
4205 Dover Road, Windsor Farms, Richmond, Va.:	
Land.....	\$22,706.58
Office buildings.....	86,161.68
Furnishings and decorations	2,205.41
	<u>\$ 111,073.67</u>
Walter Reed House, Belroi, Va.....	1,000.00
	<u>\$ 112,073.67</u>
OFFICE FURNITURE AND EQUIPMENT	
Estimated insurable value at October 1, 1950.....	\$ 5,353.11
Purchased subsequent to October 1, 1950:	
Cost during fiscal year ended September 30, 1951	\$ 951.65
Cost during fiscal year ended September 30, 1959	6,749.65
	<u>7,701.30</u>
Total Office Furniture and Equipment.....	\$ 13,054.41
Total Plant Fund Assets (Exhibit "A").....	<u>\$ 125,128.08</u>

IN GENERAL

The bookkeeping records were found to have been kept in a satisfactory manner.

Insurance in force at September 30, 1965, determined from policies on file, is shown below:

FIRE AND EXTENDED COVERAGE

Building—Windsor Farms, Richmond, Va.—80% Coinsurance.....	\$ 72,000.00
Office furniture and fixtures—80% Coinsurance.....	15,000.00
Walter Reed House, Belroi, Va.....	2,000.00

LIABILITY—OWNER'S, LANDLORD'S AND TENANT'S

Bodily injury.....	\$100,000.00—\$ 300,000.00
Property damage.....	25,000.00
Medical.....	250.00— 10,000.00

AUTO LIABILITY—NONOWNERSHIP

Bodily injury.....	\$100,000.00—\$ 300,000.00
Property damage.....	25,000.00

EMPLOYEE HONESTY BONDS

Executive Secretary-Treasurer.....	\$ 5,000.00
Secretary.....	5,000.00

ALL RISK—CAMERA FLOATER.....	\$ 200.00
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INVESTMENT BONDS

September 30, 1965

SCHEDULE 1

Bonds	Series	No. Bonds	Dated	Due	Value at Maturity	Cost	Value at 9-30-64	Value at 9-30-65
U. S. Savings.....	J	13	5-1-55	5-1-67	\$ 6,500.00	\$ 4,680.00	\$ 5,889.00	\$ 6,084.00
U. S. Savings.....	J	11	12-1-55	12-1-67	11,000.00	7,920.00	9,812.00	10,131.00
U. S. Savings.....	J	1	12-1-55	12-1-67	500.00	360.00	446.00	460.50
U. S. Savings.....	J	1	1-1-56	1-1-68	1,000.00	720.00	892.00	921.00
U. S. Savings.....	J	2	2-1-56	2-1-68	2 000.00	1,440.00	1,784.00	1,842.00
U. S. Savings.....	J	2	7-1-56	7-1-68	2,000.00	1,440.00	1,756.00	1,812.00
Total.....					<u>\$23,000.00</u>	<u>\$16,560.00</u>	<u>\$20,579.00</u>	<u>\$21,250.50</u>

(Exhibit "A")

Woman's Auxiliary . . .

President-----MRS. GEORGE W. KELLY, JR., Pulaski
President-Elect-----MRS. RALPH LANDES, Danville
First Vice-President---MRS. WILLIAM REARDON, Falls Church
Second Vice-President----MRS. J. R. MCGRIFF, Arlington
Third Vice-President----MRS. WALTER ESKRIDGE, Parksley
Recording Secretary---MRS. HAROLD GOODMAN, Richmond
Corresponding Secretary---MRS. A. B. GRAVATT, Kilmarnock
Treasurer-----MRS. ROBERT MITCHELL, Falls Church
Parliamentarian---MRS. T. N. HUNNICUTT, Newport News
Historian-----MRS. W. FRED DELP, Roanoke
Publicity-----MRS. DANIEL ANDERSON, Norfolk

Tales from a One Room School

In Richmond on Tuesday, October 12, 1965 the "old time" school bell rang insistently in the hands of a most appropriately attired "school marm", Mrs. George Kelly, newly installed President of The Woman's Auxiliary to The Medical Society of Virginia.

As the students (all new state officers, directors, committee chairmen, county presidents and presidents-elect) scurried to the call of the bell, they found bookbags, dunce caps and apples waiting at their places. The committee chairmen were each required to give a two minute recitation while perched on a high stool, dunce cap on head. While the picture they made was reminiscent of yesteryear, the information they imparted was pertinent to today and quite often included interesting plans for the future. Some of these, we felt needed to be shared with our readers herewith:

Mrs. E. T. McNamee from Stuart, as chairman of members at large, extended a cordial invitation for new members at large. She pointed out that their dues helped support the projects of the state and national auxiliaries and that without any meetings to attend, they could gain satisfaction in belonging to a group whose sole purpose was to help their husbands in their medical profession.

Mrs. Malcolm Harris, chairman of American Medical Association-Education Research Foundation (AMA-ERF) reported

that this is one of our Auxiliaries' most important projects. We are assisting our husbands by raising money to give to the medical schools and Student Loan Fund. This money we know is being put to a good cause and is helping our schools maintain their independence, so important today. The total amount collected in the Eastern Region for 1964-65 was \$55,340.54. This is just one section of the United States which is raising funds. There are fourteen states in the Eastern region including Virginia which raised \$3,175.54. New York increased their contribution last year \$7,059.43 and were the highest increase. Virginia was the next highest with \$1,057.83 increase.

The sales by all county auxiliaries of Christmas cards, monogrammed stationery, note paper, charm bracelets and charms as well as individual local projects would help make another large increase for Virginia this year.

Mrs. Edward S. Ray, chairman of Leigh-Hodges-Wright Memorial Fund gave the following history of this Memorial Fund:

At an annual meeting in Staunton in 1936, the Woman's Auxiliary following the recommendations of Mrs. Fletcher Wright, Sr., created a fund for the purpose of helping physicians or their dependents who needed hospitalization in a State Tuberculosis Sanatorium.

In 1938, the name of Leigh-Hodges-Wright Memorial Fund was adopted in memory of the three physicians whose deaths occurred while they were serving as members of the Auxiliary Advisory Council.

These doctors were Dr. Southgate Leigh of Norfolk, Dr. J. Allison Hodges of Richmond and Dr. Fletcher Wright, Sr., of Petersburg.

Seven patients have been helped by this fund in amounts varying from \$100 to \$865.

In October, 1963, it was voted by conven-

tion to present the money directly to the individual with a chest disease rather than to the sanatorium.

Maintenance of this memorial fund is by voluntary contributions from individuals and from county medical auxiliaries through the State.

Information concerning the recipients is confidential. The money given is at discretion of the permanent committee composed of Mrs. J. B. Stone, Mrs. W. C. Barr and Mrs. E. S. Ray, Chairman.

Dr. Alexander McCausland (President of The Medical Society of Virginia) as "superintendent of the One Room School" spoke briefly on the unity of the A.M.A., the im-

portance of accepting the most recent medical legislature and working to implement it. He praised the contributions to Virginia Medical Schools both by the Auxiliary and through the AMA-ERF fund, pointing out that these contributions help to keep our medical schools independent.

Before the "school" was dismissed and diplomas awarded, a warm welcome was extended to the newest scholar, the Roanoke Auxiliary, represented by Mrs. William F. Hatcher, President.

This has been a brief resume of the Post Convention Workshop conducted by Mrs. George Kelly using her title and "The One Room School".

Parent Loss Effects Vary

Loss of a parent sometimes results in juvenile delinquency or school dropout—but it may also stimulate some children to extra achievement. These are findings in two reports in the August Archives of General Psychiatry, published by the American Medical Association.

The author of both reports, Ian Gregory, M.D., Columbus, Ohio, found that of students referred to him for psychiatric consultation at a small midwestern liberal arts college, a higher-than-average percentage had lost a parent from death or divorce. Of these, a much higher than average percentage had parents who were divorced. At the same college, however, two students who had lost a parent by death were among seven who were graduated with highest honors over a five-year period. The figure is admittedly small, but has some statistical significance.

"This combination of rare events is unlikely to have occurred by chance, and suggests that factors associated with bereavement may lead some students to strive for exceptional achievement."

He also surveyed a statewide sample of

11,329 Minnesota ninth-grade school children and found that:

Delinquency in boys was much more frequent than average among boys who had lost their father by separation or divorce.

Delinquency was somewhat more frequent than average among boys who had lost their father by death.

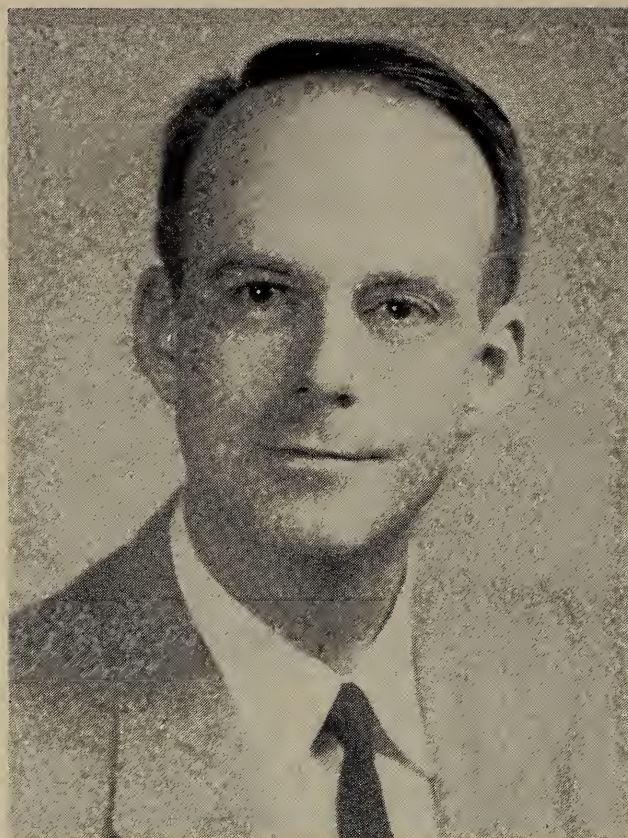
Delinquency in girls was more frequent among those whose parents had been separated or divorced, those who had lost their mother by death, those who were living with father only, and those who were living with neither parent.

Girls who lost their mothers and boys who lost their fathers got into more trouble than children who lost parents of the opposite sex.

High rates of high school dropouts were found among both boys and girls whose parents had been separated or divorced, and those who lost a parent of the same sex by death. Among non-delinquents, however, school dropout is more strongly related to intelligence and socioeconomic status than any other factor.

Editorial

New President



ALEXANDER McCausland, M.D.

AT THE OUTSET, let me express my sense of privilege on being asked to contribute an editorial about Alexander McCausland, a warm friend and esteemed colleague of many years.

Mac was born in Henderson, West Virginia, March 3, 1913, into a distinguished West Virginia family. He is the son of the late John and Norma Lee (Bright) McCausland, and the grandson of Brigadier General John McCausland, C.S.A.

After completing his undergraduate work at the University of Virginia, he graduated from its Department of Medicine with the M.D. degree in 1937. Following internship and residencies from July, 1937, to January, 1941, he served as a medical officer in the United States Navy during World War II. From 1945 to 1947, he was Fellow in Allergy at the University of Virginia Medical Center. Since then, he has been engaged in the private practice of allergy and chronic diseases in Roanoke. Mac is married to Genevieve Madagan of Roanoke.

Dr. McCausland is past President of the Roanoke Academy of Medicine, his local medical society. He is a member of the Southwestern Virginia Medical Society, the Southern Medical Association and has served

as a member of the Board of Directors of The Virginia Chapter of the Arthritis Foundation of America, the Board of Directors of the Virginia Chapter of the American Rehabilitation Association, and of the Rehabilitation Committee of The Medical Society of Virginia. He is a member of the Advisory Committee of the Virginia State Department of Rehabilitation, and a Director of Hospital Service Association ("Blue Cross") of Roanoke. Mac served as a member and as chairman of numerous committees of The Medical Society of Virginia, and has been Councilor from the Sixth District for the past eight years. He is a member of the Southeastern Allergy Association, and a former Vice-President and member of its Executive Committee, a Fellow of the American Geriatric Society, a Fellow of the American College of Allergists, Fellow of the American Academy of Allergy, as well as a member of the American Rheumatism Association. Mac is a charter member of the Virginia Association of Professions.

In 1962, he received the citation of the President's Committee for Employment of the Handicapped for exceptional contribution in furthering employment of the handicapped.

Dr. McCausland's activities on the behalf of his community are too numerous to list fully. He is a member of the Board of Directors of the Community Hospital of Roanoke Valley, and the Shenandoah Hospital in Roanoke, and is President of the Medical Arts Laboratory in Roanoke. He is an active member of the Rotary Club, and a member of the Board of Deacons of the First Presbyterian Church in Roanoke.

The Medical Society of Virginia possesses, in its new President, a man of skill and courage, vast experience, and substantial physical endurance. Tough-minded and vigorous, he has fought hard against political medicine, and has worked unceasingly for the welfare of the profession of which he is a member. Mac is dedicated to the ideals of medicine, and, withal, possesses sufficient grasp of practical politics to provide a reassuring capability to cope with the difficult problems ahead.

The phrase is well-worn, but the Society has, in Dr. McCausland, a "Doctor's Doctor", and may well rejoice that its affairs for the coming year are in the sure and capable hands of one of medicine's most devoted servants, a man with outstanding qualities of kindliness, wisdom, good humor, tolerance of human foibles, ability to get along with others to a high degree, and a man who understands the meaning of *Duty*.

Mac, your many friends in The Medical Society of Virginia send you all good wishes, and the assurance that you may rely on us.

WILLIAM H. KAUFMAN, M.D.

Calendar of Events

- MEDICO-LEGAL WORKSHOP, Community Memorial Hospital, South Hill—January 20, 1966.
- ANNUAL MEETING, VIRGINIA COUNCIL ON HEALTH AND MEDICAL CARE, Richmond—January 22, 1966.
- MEDICAL SEMINAR FOR PHYSICIANS—The Homestead, Hot Springs—Sponsored by University of Virginia School of Medicine—January 27, 28, 29, 1966.
- NATIONAL VOLUNTARY HEALTH CONFERENCE—Continental Plaza Hotel, Chicago, Illinois—February 16-17, 1966.
- VIRGINIA ASSOCIATION OF MENTAL HEALTH, Annual Meeting—Hotel Roanoke, Roanoke—March 8-9, 1966.
- NORTHERN VIRGINIA CLINICAL ASSEMBLY—Marriott Key Bridge Motor Hotel, Arlington—March 16, 1966.
- MEDICO-LEGAL WORKSHOP, Tidewater Memorial Hospital, South Hill—March 17, 1966.
- AMA LEGAL CONFERENCE, Hotel Continental, Chicago, Illinois—April 14-16, 1966.
- VIRGINIA ACADEMY OF GENERAL PRACTICE—16th Annual Scientific Assembly—Hotel Roanoke, Roanoke—May 12-15, 1966.
- AMPAC NATIONAL WORKSHOP, Sheraton Park Hotel, Washington, D. C.—May 21-22, 1966.
- SEVENTH ANNUAL SYMPOSIUM ON CLINICAL ASPECTS OF RENAL DISEASE—Ischemic Heart Disease and Cardiac Diagnosis—Sponsored by Tidewater Heart Association & Council on Clinical Cardiology, American Heart Association—Cavalier Hotel, Virginia Beach—June 30-July 2, 1966.

New Members.

The following members were admitted into The Medical Society of Virginia during the month of October:

Charles M. Aaronson, M.D., Fairfax
 Beverly Gilly Boaz, M.D., Clifton Forge
 Alf Lee Fjordbotten, M.D., Arlington
 Maurice W. Frazier, M.D., Phoebus
 Jay Young Gillenwater, M.D.,
 Charlottesville
 Grace Hughes Guin, M.D., Arlington
 Russell E. Herring, Jr., M.D., Martinsville
 John Staige Davis, IV, M.D.,
 Charlottesville
 Andres Gilberto Oliver, M.D.,
 Gloucester Point
 Guillermo J. Perez, M.D., Marion
 Isaac Katz Rudnikas, M.D., Falls Church
 John Wandell Walker, M.D., Alexandria

Northern Neck Medical Association.

At the annual meeting of this Association, held in Kilmarnock on October 28th, Dr. Powell Williams, Reedville, was installed as president. Dr. Harold Sisson, Warsaw, was named president-elect; Dr. Brent Wayman, Weems, vice-president, and Dr. A. Broadus Gravatt, Jr., Kilmarnock, re-elected secretary-treasurer.

Southern Medical Association.

At the annual meeting of this Association, held in Houston in November, Dr. J. Garber Galbraith, Birmingham, was installed president; Dr. Guy T. Vise, Meridian, was named president-elect; Dr. Oscar B. Hunter, Jr., Washington, D. C., and Dr. Mylie E. Durham, Jr., Houston, vice-presidents. Dr. R. H. Kampmeier, Nashville, retiring president was named editor of the Southern Medical

Journal. Dr. George J. Carroll, Suffolk, was named a member of the Council.

The 1966 meeting of the Association will be held in Washington, D. C.

Flying Physicians Association.

Dr. Robert A. W. Latimer, Manassas, has been elected president of the Virginia Chapter of this Association. Dr. Aubrey Houser, Jr., Richmond, has been named president-elect and Dr. Claude K. Hylton, also of Manassas, vice-president.

Dr. J. H. Hagy,

Rocky Mount, has been elected president of the Franklin County Chapter of the American Cancer Society.

Dr. Oscar Swineford, Jr.,

Charlottesville, has been named a member of the National Medical Advisory Committee for the Medic Alert Foundation.

Dr. Roy M. Hoover,

Roanoke, who has been associated with the medical services department of the Woodrow Wilson Rehabilitation Center at Fishersville since its inception in 1947, has resigned as director of medical services to devote full time to a rehabilitation research project. He will be succeeded by Dr. Theron R. Rolston, formerly student health physician at the center.

Dr. Hoover will work on a research endeavor in the field of prosthetics. This project is a joint effort on the part of the Center, the University of Virginia and the Mechanical Engineering Laboratory of the General Electric Company.

Dr. Burton Honored.

Dr. Edwin W. Burton, who retired July 1st as chairman of the department of ophthalmology at the University of Virginia, was honored recently with a testimonial dinner at the Farmington Country Club. This was attended by twenty physicians who received

their training under Dr. Burton, by members of the ophthalmology staff and the present resident staff at the University. Dr. Burton was presented with an inscribed silver tray and an album commemorating the occasion. The group also commissioned a portrait of him which will be given to the School of Medicine.

American College of Surgeons.

The following members of The Medical Society of Virginia have been made Fellows of the College: Drs. Frank C. McCue, III, Charlottesville; James D. Sprinkle, Danville; Gerard J. Inguagiato, Falls Church; Jerome E. Adamson, Theodore Adler, Hugh H. Crawford, George A. Harkins, Charles E. Horton, John W. King, Richard K. Neal, Jr., and John H. Vansant, Norfolk; Wasfi A. Atiyeh, Louis W. Conway, Joseph R. Gazala, Hunter H. McGuire, Jr., Paul Middleton, James F. Oates, III, Nicholas G. Poulos, Max S. Littenbury, and William T. Stuart, Jr., Richmond; and David H. Harpole, Ronald B. Harris, and Thomas S. R. Ward, Roanoke.

Frank S. Johns Foundation.

A Foundation has been formed in tribute to the honorary chairman of the board of Johnston-Willis Hospital, Richmond. The purpose of the Foundation is for charitable, religious, educational and scientific purposes, the first project of which will be to purchase books and equipment for the Frank S. Johns Library that will be installed in a wing to be built at the hospital. Dr. Paul D. Camp, Richmond, is president of the Foundation.

Dr. Johns is recovering from a severe illness that has kept him hospitalized for the past six months.

Dr. Robert L. Ozlin,

South Hill, recently received his 50-Year Masonic Pin at the Free State Lodge of Kenbridge. He was initiated in this same lodge and has held continuous membership in it for 50 years.

Dr. Robert J. Faulconer,

Norfolk, has been elected a delegate-director of the American Cancer Society.

A Multiple Sclerosis Clinic

Has been formed at the Medical College of Virginia under the direction of the Department of Neurology. All patients, regardless of ability to pay, will be accepted on referral from their local physicians or by contacting the National Multiple Sclerosis Foundation Richmond area chapter. The primary aim of the clinic is toward diagnosis, confirmation of diagnosis, close attention to those problems peculiar to patients with chronic neurological deficits, as well as a review of the general health status of the patients. An effort will be made to bring to the patients any new types of therapy as might seem advisable and to secure such consultation as would seem indicated by the general medical health. Certain ancillary services including laboratory studies, will be covered by the Richmond Area Chapter upon discretion of the clinic director.

Registration for the clinic will be through the usual clinic channels and the patients will pay according to their ability as determined by clinic schedules.

The clinic will be held on the first and third Mondays of each month with registration between 8:00 a.m. and 9:30 a.m. Any inquiries should be made to Dr. Laurie E. Rennie, Department of Neurology, Medical College of Virginia, or to Mrs. Martha Harmon, National Multiple Sclerosis Society, Richmond, Virginia.

Pediatrician Wanted.

Under 35. For 20 partner Southern California specialty group. Partnership potential after first year. Administrator, Gallatin Medical Group, 10720 South Paramount, Downey, California. (*Adv.*)

Urologist Wanted

For specialty partnership in California. Write #65, care Virginia Medical Monthly, 4205 Dover Road, Richmond, Virginia 23211. (*Adv.*)

Obituaries

Dr. Edward Latane Flanagan,

Richmond, died October 29th at the age of eighty-three. He was a graduate of the Medical College of Virginia in 1914. Dr. Flanagan worked with the State Board of Health after his graduation and was one of the early workers in hookworm campaigns in Virginia. He inaugurated health work in Greensville County and was the first health officer in Fairfax County. Dr. Flanagan was a captain in the Medical Corps in World War I and was consulting roentgenologist for the Veterans Administration for twenty-one years. He had served as president of the Virginia Radiological Society and had been a member of The Medical Society of Virginia for forty-nine years.

His wife, a son and a daughter survive him.

Dr. Arnold Ferdinand Strauss,

Norfolk, died November 4th. He was sixty-three years of age and a graduate of the University of Bonn, Germany, in 1928. Dr. Strauss came to the United States in 1935 and was in West Virginia before locating in Norfolk in 1936. He was chief pathologist and director of laboratories of DePaul Hospital, associate professor of pathology at the Medical College of Virginia, Richmond, a consultant to the U. S. Naval Hospital, Portsmouth, Kecoughtan Veterans Administration Hospital, Hampton, and Norfolk Public Health Hospital. Dr. Strauss had been a member of The Medical Society of Virginia for twenty-eight years.

Dr. James Brooke Pettis,

Formerly superintendent of Western State Hospital, Staunton, died October 8th, having been in ill health for several years. He was sixty-seven years of age and received his degree from the Medical College of Vir-

ginia in 1930. Dr. Pettis joined the Staff of Western State Hospital in 1939 as clinical director and was appointed superintendent in 1946, a position he held until 1962 when he retired because of ill health. He was a former president of the Virginia Neuropsychiatric Society and the Augusta County Medical Society. He had been a member of The Medical Society of Virginia for twenty-five years.

His wife and two daughters survive him.

Dr. Walter Wesley Sawyer, Jr.,

Norfolk, died October 8th, at the age of forty-nine. He received his medical degree from Temple University in 1943. Dr. Sawyer had been a member of The Medical Society of Virginia since 1953.

His wife, a son and a daughter survive him.

Dr. Exley.

Mark Exley was born in Menasha, Wisconsin, on March 27, 1900.

He was a graduate of the University of Wisconsin, and received his doctorate in medicine from Northwestern University in 1934. He served his internship and residency in Kings County Hospital in Brooklyn, followed by a residency in urology at Massachusetts General Hospital.

During World War II, Dr. Exley served in the U. S. Public Health Service. After his separation from the service, he entered the private practice of urology in Norfolk in 1946, and served this community faithfully and well until he was forced, by reason of his protracted illness, to retire from active practice in August 1964.

He was a staff member of Norfolk General, De Paul and Leigh Memorial Hospitals; and will long be remembered by his patients and his colleagues for his diligence, forthrightness, compassion and ability of the highest order.

He was a member of the Norfolk County Medical Society, The Medical Society of Virginia, and the American Medical Association. He also was a member of the American College of Surgeons, the American Urological Association, the Mid-Atlantic Uro-

logical Association, and the Seaboard Medical Association.

He is survived by his wife, Mrs. Clara Pope Exley, a sister, two nieces, and a nephew.

Dr. Mark Exley died August 2, 1965.

WHEREAS the Norfolk County Medical Society wishes to express its sense of loss in the passing of a good friend and fellow member, and its sympathy to Mrs. Exley.

BE IT RESOLVED that a copy of this resolution be entered in the minutes of this Society, and that copies be sent to Mrs. Clara Pope Exley and to the Virginia Medical Monthly.

BERNARD LIDMAN, M.D.

WILLIAM F. SELLERS, M.D.

JOHN HILL, M.D.

Dr. Luik.

Silvia Luik was born in Rakvere/Estonia, on May 4, 1925. She was reluctant to discuss the hardships she endured during World War II, but she spent time in a Concentration Camp in Nazi Germany, from which she escaped, and then spent five years in displaced persons' camps in Germany. She came to the United States in 1950, and then returned to Germany, to study Medicine and she received her M.D. Degree from the University of Germany, Frankfurt, in March 1955. She returned to the United States in 1955, associating herself with psychiatric hospitals in Massachusetts, New Jersey, Maryland, District of Columbia, and California. Except for a short tenure in California in 1961, she has been in Virginia since 1958, being on the Staff at Western State Hospital in Staunton; the Southwestern State Hospital in Marion; Eastern State Hospital in Williamsburg, and since 1962, on the Staff of the Tucker Hospital in Richmond.

Dr. Luik was a Diplomate of the American Board

of Psychiatry and Neurology, and held memberships in a number of medical societies, including the Richmond Academy of Medicine, The Medical Society of Virginia, the American Medical Association, the American Psychiatric Association, the Neuropsychiatric Society of Virginia, and the Society for Women Physicians.

She was a shy person, respectful of the feeling of others, never demanding of her co-workers, but oft-times demanding of herself in her devotion to her work and to her patients. With her background of hardship in her early life, one might expect her to be intolerant of weakness that she worked with in so many personalities, but she used her own past life experiences so aptly in her therapy, that even the weakest could sense this and develop strength. She herself engaged in little frivolity. She seemed to always use her time constructively, yet she appeared at all times not to begrudge others their recreation, social activities and pleasures. To say the least, she was most tolerant of others. She had a gifted, somewhat dry sense of humor, that attracted her friends, her patients and her co-workers. Her interests were mainly in devotion to patients and their problems, and her greatest delight seemed to be in seeing these people mature, and to be well. She had other interests, mainly in travel, seeing new people, places, and in seeing how other people lived. She never complained that she was alone without relatives. The Tucker Hospital and her associates there, she made her family. She was a delightful, sincere, respected person and an inspiration to all who worked with her.

THEREFORE BE IT RESOLVED that this expression of gratitude for having known and worked with her be filed with the Minutes of the Society, and a copy be sent to the Virginia Medical Monthly.

WEIR M. TUCKER, M.D.

EDWARD W. GAMBLE, III, M.D.

GEORGE S. FULTZ, JR., M.D.

Committee

VIRGINIA MEDICAL MONTHLY

*Official Publication of
The Medical Society of Virginia*

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Index to Volume XCII

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January, 1965 - December, 1965

Inclusive

INDEX TO VOLUME XCII

January, 1965-December, 1965, Inclusive

January	—pages	1- 56
February	—pages	57-108
March	—pages	109-156
April	—pages	157-200

May	—pages	201-246
June	—pages	247-296
July	—pages	297-344
August	—pages	345-398

September	—pages	399-458
October	—pages	459-512
November	—pages	513-564
December	—pages	565-632

AUTHOR INDEX

Adamson, Jerome E., 253
 Allen, Gerald, 226
 Allen, M. Shannon, Jr., 515
 Allison, M. J., 229
 Assanasen, C., 116

Barnett, Charles P., 565
 Beckwith, Julian R., 463
 Benedict, Lois, 248
 Bickers, William M., 345
 Birdsong, McLemore, 568
 Bohjalian, O., 385
 Bondurant, R. F., 116
 Burkhart, C. R., 285, 590
 Buxton, W. Dimmock, 96
 Byrd, John A., 204

Calver, Homer N., 201
 Carey, Sam, 280
 Canizaris, Felipe Garcia, 540
 Catlett, John B., 120
 Centor, Arthur, 331
 Chambers, Donald, 22
 Cimmino, Christian V., 238, 317, 451
 Conquest, H. Fairfax, 78, 527
 Cox, Russell M., 513
 Crawford, Hugh H., 253
 Cross, James Parker, Jr., 220

Davis, Hiram W., 43, 419
 deNiord, Richard N., 28, 469, 174
 Devine, Patrick C., 204
 Donelson, Martin, Jr., 289

Edmunds, B. Prescott, Jr., 463

Fairly, John, 120
 Fehete, Andrew M., 204
 Fisher, Edgar J., 157
 Fisher, L. M., 143
 Fitchett, Claiborne W., 217
 Fitz-Hugh, G. S., 124, 137
 Frenzel, Winston W., 130

Garber, Robert S., 59
 Gemmill, Chalmers L., 481
 Gibbs, Charles E., 476
 Gibbs, William Phillip, 223
 Gill, John A., 257
 Guajardo, Mario, 45
 Gwathmey, Owen, 579

Hairston, Peter, 76
 Hallay, Leo I., 595
 Harden, Gardner, 124
 Harris, Robert E., 476
 Hooper, G. S., 335
 Horsley, Guy W., 212
 Horton, Charles E., 253
 Houck, William Stokes, Jr., 579
 Howren, Harry H., Jr., 274
 Hudson, Page, 321, 409, 544
 Humphries, M. K., Jr., 520
 Hundley, John T. T., 80

Irby, Robert, 226
 Islami, Z. S., 416

Jarrett, John T., 576
 Jones, G. W., 292
 Jones, Mary J. A., 481
 Jordan, William R., 308, 401

Kaufman, William H., 622
 Keeley, Robert L. A., 367
 Kenneweg, Donald J., 515
 Kernodle, R. Wayne, 499
 Knopoff, I., 552

Lantz, Edna M., 139
 Lee, C. Marshall, Jr., 159
 Lewis, William D., 38
 Littlefield, James B., 354
 Lloyd, T. Stacy, Jr., 399
 Lynch, John P., 109

Mapp, John Rogers, 405
 Martin, John A., 149
 McCue, Frank C., 12
 McGovern, Francis H., 269
 McGuire, Lockhart B., 377, 484, 583
 Miller, Bernard H., 32
 Mitchell, Robert Edgar, Jr., 99, 571
 Moon, Cary N., Jr., 65
 Moon, John H., 321, 409, 544
 Morton, C. Bruce, II, 76
 Moss, James M., 101, 196, 338, 453
 Muller, William H., 463
 Myers, Alonzo, 12

Nagler, Benedict, 386
 Neale, Richard C., Jr., 91, 496
 Newman, Eugene M., 299

Old, Levi, Jr., 204, 359

Palkot, J. S., 116
 Palmer, Richard E., 112, 347
 Payne, Robert L., Jr., 249
 Pearce, W. N., Jr., 552
 Pontasse, Eugene F., 135
 Pugh, H. Lamont, 459

Rawles, Benjamin W., Jr., 1
 Ray, Edward S., 120, 170
 Roark, John W., 347
 Rostafinski, Michael J., 71

Sandusky, William R., 57
 dos Santos, J. G., 185, 226
 Scott, Morgan E., 536
 Shrum, Richard C., 515
 Sie, Ing Hok, 370
 Sloan, William S., 88
 Smith, C. Carroll, 217
 Smith, David E., 484, 583
 Smith, E. Ide, 22
 Smith, Grace Maynard, 183
 Snead, James G., 367
 Spencer, Henry S., 527
 Sprague, Randall G., 311
 Sprinkle, Philip M., 124
 Stokes, T. Lane, 359
 Stroo, Hans S., 233

Tarrant, William G., Jr., 298
 Thompson, Edward, 269
 Thornhill, Thomas M., Jr., 469
 Triani, Peter A., 130
 Tucker, H. St. George, Jr., 299

Vincent, Charles J., 5

Waldren, Daryl, 124
 Warthen, Harry J., 51, 147, 195, 291,
 339, 393, 506, 560
 Weisiger, Benjamin B., 161
 Welchons, George, 120
 Westervelt, Fred B., Jr., 304
 White, Arthur E., 18
 Williams, Armistead M., 265
 Williams, Gaylord S., 515
 Wisoff, Carl P., 166
 Wood, Juanita, 386
 Wood, William H., Jr., 136

Zolik, Edwin S., 139

SUBJECT INDEX

- Adrenal surgery for hypertension, 204
 Aneurysms, Aortic; emergency and elective surgical resection, 174
 Aortic aneurysms — emergency and elective surgical resection, 174
 Aortic fracture, Recognition and treatment of, 28
 Asthma, appraisal of glomectomy for, 120
- Bilirubin toxicity kernicterus, 285
 Blood ammonia, 590
 Bone scanning in the management of cancer patients, 166
 Breast, A new approach to cystic disease of the, 253; — cancer prognosis: evaluation of long-term series of private patients, 265
 Bronchus, Mucoid impaction of the, 367
- Calabar swelling in Virginia, 226
 Cancer patients, Bone scanning in the management of, 166; Breast — prognosis, 265; Cigarette smoking and — of the bladder, 595
 Carcinoma of the lung, Alveolar cell, 469; The uses of esophageal prostheses in the management of patients with —, 137
 Cardiac murmur, hepatomegaly and diarrhea, 484; Current trends in — surgery, 354
 Cerebellopontine angle tumors, Neurotologic manifestations of, 220
 Chest pain, collapse and coma in an alcoholic, 583
 Cholecystitis and pancreatitis, Acute renal failure, 476
 Cholecystogram, Limitations of the oral, 527
 Cigarette smoking and cancer of the bladder, 595
 Colon in the newborn in the infant, Obstruction of the, 22; Internal fistula formation secondary to — malignancy, 76; Is the — the ideal esophageal substitute, 579
 Colonic "sphincters", Roentgen diagnostic value of spasm of certain, 317
 Cuba before and after Castro and by Cuban physicians in exile, Medical practice in, 540
 Cystic disease of the breast, A new approach to, 253
- Depressed patient, Management of the, 59
 Diabetic coma associated with deranged carbohydrate metabolism, 401; Current concepts of — nephropathy, 304
 Diabetes, Pre-, 299; Pancreatic islet cell tumors, 308; Principles in the use of insulin and oral agents in the treatment of —, 311
 Diarrhea in a young woman, Bloody, 544
 Diverticulitis, 212
 Dupuytren's contracture, 249
- Editorials**
 Adoption: a follow-up report, 247
 Baruch, Bernard M. (1870-1965), 393
 Birth control, The changing concept of, 201
 British physicians, The — a sign of things to come, 506
- Clinicopathological Conference, The: a new feature, 339
 Diverticulosis and diverticulitis of the colon, 451
 Doctors, More, 459
 Farmer had a lung, The, 565
 Fee schedules, The inflationary effect of, 101
 Fuller, Stewart R., Ambassador of goodwill, 195
 Gallbladder, A roentgenologist looks at the, 237
 Hospital from medical staff point of view, Effective relationships in the, 1
 King Edward and King-Anderson, 52
 Licensure of graduates of foreign medical schools, 513
 Manpower, The conservation of medical, 196
 Medical orphans, 338
 Menetrier's disease—giant hypertrophy of the gastric mucosa, 99
 Nostrum, The latest national, 199
 Pill and theology, 345
 Please, Mr. Shriver, 157, 289
 Prescriptions, reading and writing and refilling, 297
 President, New, 622
 Questionnaire, Please return the, 51: Results of the —, 291
 Radioactive isotopes in medicine, 149
 Rampant welfare, 292
 Sands treatment, The, 399
 Surgeons, Virginia and the American College of, 57
 Two to a bed, 560
 VaMPAC banquet, The, 453
 Williams, Ennion S., 147
- Emotional disturbance in general practice, Children's, 233
 Emphysema, Pulmonary, 170
 Employee absence, The problem of, 576
 Encephalopathies, Maternal age, birth rank and prenatal, 71
 Endocarditis, 229
 Esophageal prostheses in the management of patients with carcinoma, The uses of, 137; Is the colon the ideal — substitute, 579
 Eye problems in the elderly, 520
- Facial deformities program, 494; The prognostic value of the nerve excitability test in peripheral — paralysis, 269
 Fever, Aphasia and coma in a girl, 377
 Fistula formation secondary to colon malignancy, Internal, 76
 Fluoridation for Richmond, Virginia, Report on, 130
- Gastric analysis, 335
 Gastrointestinal hemorrhage, 1946-1956, 161
 Glioblastoma multiforme, 116
 Glomectomy for asthma, Appraisal of, 120
 God, But for the grace of, 88
- Hand, Skin coverage in injuries of the, 12
 Health sciences, Institute on advances in the, 392
 Hearing loss and otolaryngologic disorders in consecutive admissions to a State mental hospital, Incidence of, 124
 Hemorrhoidectomy, Clamp and cautery, 78
 Hepatitis, The diagnosis of viral, 496
 Hypertension, Adrenal surgery for, 204
 Hypertension, Reno-vascular, 463
- Ileocolostomy, A simplified method of, 515
- Industrial hygiene, Recent developments in, 231
 Intestinal ulceration and stenosis, Non-specific small, 347
 Isozymes of the lactic dehydrogenase, 416
- Laboratory service, Some new, 145
 Loiasis, 226
 Lung, Alveolar cell carcinoma of the, 469
- Malignancy, Internal fistula formation secondary to colon, 76
 Man, Tribute to a, 159
 Marital problems, Joint treatment of, 536
 Medical care, Some essential elements of good, 38; — self help in Virginia, 41
 Medical Society of Virginia, The: Minutes of Council, 190; Preliminary program, 421; Reports, 432; Delegates, 446; Presidents, 448; Annual meeting, 561; Minutes of annual meeting, 596
 Medicare (lesser known provisions of the bill), 555
 Medicine at the crossroads, 80
 Mental health center and — retardation facility construction under Public Law 88-164, 94; Virginia's first — congress, 96; Voluntary admissions to State — hospitals and changes in other admission procedures, 43; Incidence of hearing loss and otolaryngologic disorders in consecutive admissions to a State — hospital, 124; Patients return rates to two — hospitals, 139; Comprehensive planning toward combating — retardation in Virginia, 183; Recommendations of the Virginia — study commission, 280; — patients in nursing homes, 419; Leaves without permission from Eastern State Hospital in Williamsburg, 499;
 Metabolism, Coma associated with deranged carbohydrate, 401
 Mucoid impaction of the bronchus, 367
- Navy, Physicians of the Old Dominion and the United States, 571
 Nerve excitability test in peripheral facial paralysis, 269
 Neuro-otologic manifestations of cerebellopontine angle tumors, 220
 Nursing tuned in, Is Virginia, 405
 Nutrition challenges in medicine, 417
- Obituaries**
 Albert Adgates Bailey, 563
 Harry Lewis Baptist, 56
 Lewis Berlin, 244
 Luther Clifton Brawner, 153, 245
 Stuart Gray Coughlan, 244, 458
 Gilbert Octavius Crank, 106
 William Hughes Evans, 246
 Mark Morris Exley, 510, 627
 Edward Latane Flanagan, 627
 Gerhard Gabriel, 563
 Henry Thomas Garriss, 199
 William Lawrence Gatewood, 106
 John Jacob Glesen, 344
 John Guido Graziani, 153, 296
 John Richard Hamilton, 56, 107
 David Lemuel Harrell, Jr., 244
 German Smith Hartley, 107
 Lucy Scott Hill, 457, 564
 William Hoge Wood, Jr., 457
 Lewis Winston Holladay, 154
 Claude Kelso Kelly, 563

- Ben Halsey Knight, 344
 Henry Augustine Latane, 456
 Francis Harrison Lee, 199
 Mrs. Lee S. Liggan, 457
 Silvia Luik, 564, 628
 John Robert Massie, 106, 154
 Hulbert Christopher McCoy, 397, 458
 Ernest Brubaker Miller, 106
 Howard Lyle Mitchell, 156
 William Cline Moomaw, 199
 Edward J. Moseley, Jr., 56
 Thomas Whitehead Murrell, 55, 199
 Collins Denny Nofsinger, 153, 199
 James Russell Parker, 106
 James Brooke Pettis, 627
 John Williams Powell, 510
 Joseph Edward Rucker, 296, 397
 Walter Wesley Sawyer, Jr., 627
 Abe Leon Schwartz, 244
 Henrik Shelley, 244
 Anthony Peter Slewka, 106
 Arnold Ferdinand Strauss, 627
 Chichester Tapscott Peirce, 155
 William Forest Thornton, 510
 James W. Tipton, 108
 Thomas Jefferson Tudor, 296
 Vernon Wood O'illen, 456
 Roy Wakefield Upchurch, 108
 Dean Harold Vance, 56
 Dawson Edward Watkins, 344, 398, 457
 William Hoge Wood, Jr., 244
 Ennon Shelton Williams, 147, 153, 159, 245
- Obstruction of the colon in the newborn and in the infant, 22
 Otolaryngologic disorders in consecutive admissions to a State Mental Hospital, Incidence of hearing loss and, 124
 Pancreatic islet cell tumors, 308
 Pancreatitis, Acute, 321; Acute renal failure, acute cholecystitis and —, 476
 Paraffinoma, 223
 Pedodontist talks to physicians, A, 5
 Pentosuria, Essential, 385
 Pericarditis, Idiopathic recurrent, 32
 Peripheral facial paralysis, The prognostic value of the nerve excitability test in, 269
 Physicians of the Old Dominion and the United States Navy, 571
 PKU, Progress report on, 386
 Platelet disorders, 143
 Poison control centers, 287
 Polycythemia, 45
 Prediabetes, 299
 Pregnancy, A review of the literature concerning smoking during, 274
 Premature infant, Health Department Services for the, 181
 Presidential address, 112; 568
 Renal failure, acute cholecystitis and pancreatitis, Acute, 476
 Renovascular hypertension, 463
 Roentgen-diagnostic value of spasm of certain colonic "sphincters", 317
 Salivary gland disease, The complexity of, 257
 Samaritans, Good, 136
 Sarcoidosis, 552
 Scanning in the management of cancer patients, Bone, 166
 Schizophrenia, Prognosis in, 331
 Skin coverage in injuries of the hand, 12
 Smoking during pregnancy, A review of the literature concerning, 274
 Societies
 Alexandria Medical Society, 150
 American Medical Association, 102
 Arlington County Medical Society, 150
 Augusta County Medical Society, 562
 Fairfax County Medical Society, 102, 197
 Flying Physicians Association, 625
 Medical Association of the Valley of Virginia, 455, 341
 Northern Neck Medical Association, 54, 624
 Portsmouth Academy of Medicine, 455
 Prince William County Medical Society, 562
 Richmond Academy of General Practice, 150
 Richmond Academy of Medicine, 54
 Rockbridge County Medical Society, 197
 Smyth County Medical Society, 102
 Southern Medical Association, 103, 624
 Southwestern Virginia Medical Society, 197, 509
 Virginia Academy of General Practice, 241
 Virginia Pediatric Society, 241
 Virginia Society of Ophthalmology and Otolaryngology, 341
 Virginia Surgical Society, 341
 Spleen, Rupture of the, 359
 Stribling, Francis Taliaferro, M.D., 481
 Suicides in Virginia, 370
 Surgeons, American College of, 135
 Syphilis (Lues), The serological tests for, 185
 Thyroid diseases, The changing indications for surgery in, 217
 Transfusion therapy, Emergency, 91; — — in hemorrhagic disorders, 558
 Tuberculosis under control, Is, 329; A proposal for the use of surplus — sanatoria beds, 593
 Tympanoplasty, 65
 Ulceration and stenosis, Nonspecific small intestinal, 347
 Ultrasound, 18
 Vomiting, stiff neck and abdominal pain in a two year old, 409

X66-854

Virginia medical monthly.
v.92, 1965.

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